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Part One, "Needs and Goals," (1) examines nursing practice and nursing education, the supply of nurses, educational resources, and the needs in relation to specific fields of nursing, (2) sets of 1970 goal of 680,000 "professional nurses" in practice, an increase of 130,000 over those in practice in 1962, and 350,000 licensed practicial nurses, and (3) specifies levels of preparation for "professional nurses." Part Two, "Moving Toward the Goals," recommends (1) a study to be financed by private and government funds, of the present system of nursing education in relation to the responsibility and skill levels required for high quality patient care, and (2) the provision of federal funds to improve recruitment programs, and allow for student loans and scholarships, assist nursing schools to expand and improve the quality of educational programs, aid professional nurses to obtain advanced training, assist health agencies to improve utilization and training of nursing personnel, and increase support for research in nursing. Seventeen tables include information about nurses and other nursing personnel in practice and about educational programs in respect to numbers, types, admissions, enrollments, graduations, and student costs. (JK)

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Report of the Surgeon General's
Consultant Group on Nursing

Toward Quality in Nursing

Needs and Goals

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

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Foreword

The Consultant Group on Nursing was appointed in the spring of 1961 by the Surgeon General of the Public Health Service to advise him on nursing needs and to identify the appropriate role of the Federal Government in assuring adequate nursing services for our Nation. The charge to the Group recognized that nursing is an essential element of health care, and that there are major problems confronting the nursing profession which can best be solved with the help of constructive public understanding and support.

In the opinion of the Group, the Nation faces a critical problem in ensuring adequate nursing services in the years ahead. The need for more nurses is urgent. Past failures to provide enough nursing personnel have compounded the need. But it will not be enough simply to increase our supply of nurses. Quality must be the constant goal of education, service, and research if nursing is to meet its share of responsibility for the health of the Nation.

The Group recognized throughout its deliberations that Federal action alone would not solve the many problems of providing nursing services for the people of this country. Private initiative and State and local governments must assume their share of the responsibilities. The primary purpose of the Consultant Group, however, was to delineate the role and responsibility of the Federal Government and to make appropriate recommendations.

Experience with the Federal Cadet Nurse Corps during World War II, with Public Health Service nursing traineeships, and with the development of practical nurse education under the Federal-State vocational training programs has demonstrated how effective Federal assistance can be in increasing the supply of nurses when the action is soundly conceived and boldly taken.

Lack of adequate financial resources is a basic problem. Nursing has not been successful in commanding adequate private support for the development of its educational institutions and programs, despite diligent effort. In the judgment of the Consultant Group, if the nursing problem is to be solved, there is no alternative to Federal aid.

In this report substantial attention is given to each of the major groups of nursing personnel—graduates of baccalaureate and associate degree and diploma programs, practical nurses, nursing aides, and auxiliary workers. The report also emphasizes the need to develop patterns for the more efficient use of nursing personnel, so that professional nurses will be freed of tasks which other less highly trained nursing personnel can do satisfactorily.

Changes in our society and advances in the science of medicine require leaders in the health field with more knowledge and skill than ever before. Such leaders include teachers, supervisors, administrators, and clinical specialists. At the present time, the field of nursing has too few professionally qualified leaders. The need for leadership will become greater as time goes on.

This Nation looks to its institutions of higher education to prepare our young people for the professions and for leadership responsibility in virtually all fields. Talented young people are demanding a university education and the national interest dictates that they receive it. This is and should be no less true in nursing than in such fields as medicine, teaching, engineering, business, and agriculture. Hence this report deliberately gives emphasis to programs of nursing education in our colleges and universities.

Today nursing education is at a crossroad. We need a careful examination of the existing types of nursing education programs, to determine how they can be merged into a pattern that will adequately prepare the nurse to render better patient care and allow her to advance professionally in an orderly manner. Pending the outcome of such a comprehensive study, we need immediate action to expand and improve nursing services within the evolving framework of education and patient care.

The first five chapters of this report identify nursing service needs and establish goals for the coming decade (Part One: Needs and Goals). Ways of approaching nursing service goals are discussed in the remaining six chapters (Part Two: Moving Toward the Goals). Part Two also contains the Consultant Group's recommendations for Federal action to help assure adequate nursing services. Particular attention is given to the importance of improved use of nursing personnel and to the need for research in nursing.

The solution of the nursing problem is a complex matter; it requires a multipronged attack with adequate resources to do the job. A timid, piecemeal approach is doomed to failure. The recommendations of the Consultant Group call for a broad and integrated attack on the many problems in the nursing field. The price of delay in dealing with these problems will be paid in the suffering of Americans who need but do not receive adequate nursing care.

December 19, 1962

Alvin C Eurich

Chairman

Part One

NEEDS and GOALS

Chapter I.

Nursing Today and Tomorrow

A severe shortage of nurses exists in the United States today. It is both quantitative and qualitative. Quantitatively, the shortage makes it impossible to supply hospitals and other health facilities and organizations with sufficient numbers of adequately prepared nurses. Qualitatively, it impairs the effectiveness of nursing care.

Although the number of nurses in practice has increased substantially, demands for nursing service have increased even faster. Rising rates of hospitalization, growth in public and voluntary health agencies, the rapid advance of medical science, and increased employment of nurses in doctors' offices have so expanded the demand for nursing services that the shortage has become a critical national problem. Practical nurses and auxiliary nursing personnel have been used increasingly to supplement or take the place of professional nurses.

The Context

The problem of providing fully adequate nursing services can be understood only when seen in the context of the total picture of medical care in our society. Changes which have occurred in the population and in the practice of medicine have complicated the problem.

The population of the United States is increasing rapidly. Between 1960 and 1970 the number of people will increase at a rate equivalent to adding each year a city the size of Chicago. During the 1970's, the annual increase is expected to be even greater.

Simply to serve more people we need an increased number of nurses, but the need is augmented by changes in the characteristics of our growing population. A million more babies will be born in 1970 than in 1960. There will be many more aged people, who are particularly susceptible to long-term illness and who require more nursing services than other groups.

The educational and economic level of the population has also been rising, bringing greater utilization of health services among all age groups. The increasing coverage of the population by voluntary insurance plans and public medical care programs has made it possible to finance more health care. Since 1929 total expenditures for health (public and private) have grown from $3.6 billion or 3.6 percent of the gross national product, to $29.0 billion or 5.7 percent of the gross national product (*1*). As expenditures for health care have increased, so have demands for nursing services.

This growth in the demand for health care is reflected in the rising number of workers in the health occupations. In the past 50 years the Nation's population has doubled, but the number of health workers has quadrupled, from 500,000 to more than 2 million. But even this large growth has not been great enough to keep pace with the need. Today we are going through the most rapid and critical social changes with respect to health and health services that our society has ever seen.

Medical science can now achieve more than was possible ever before. But the application of modern science requires new knowledge and skills on the part of practitioners in the health field, and the ability to use new and complex instruments and to perform critical procedures skillfully. Modern health care demands the planned participation of patients toward their own recovery—witness early ambulation and the patients' role in rehabilitation. If modern medical care is to be effective, nurses must know much more and be able to do much more than ever before.

Changes in the Practice of Nursing

The growing number and variety of institutions and agencies now required to provide care have significantly affected the practice of nursing. At the turn of the century nurses worked primarily in the home; today they practice in many settings. Nurses in hospitals not only give direct service to patients but also serve in leadership positions as administrators of nursing service, hospital administrators, and supervisors of nurses and auxiliary workers. In nursing homes, nurses provide professional health services for the chronically ill. In public health agencies, nurses' work includes the promotion of community and family health, the prevention of disease, and home care of the sick. Nurses also serve in industry, and in Federal, State, local, and international health agencies.

Changes in medical practice require better coordination of specialized professional and technical services needed by many patients. Specialized services include those provided by the medical social worker, the physical therapist, the occupational therapist, the clinical psychologist, the laboratory and X-ray technician, the dietitian, and many others. These people must work together with the physician and the nurse as a team if they are to be truly effective. As a member of the team, the nurse often has an important role in scheduling and correlating the work of other specialized workers in the day-to-day care of the patient. If some of the specially trained people are not available, the nurse must help provide services ordinarily given by them.

Physicians are delegating increased responsibilities to the professional nurse. World War II gave impetus to the use of nurses for carrying out certain procedures—e.g., giving intravenous fluids—formerly performed by the physician. Today the nurse when adequately trained is able to act on her own initiative in taking emergency measures—e.g., relieving respiratory distress—for the care of postoperative or other critically ill patients. With development of new techniques, she will be expected increasingly to perform highly specialized tasks and to use independent judgment in meeting her responsibilities.

As the responsibilities of the professional nurse have increased, practical nurses and aides have been recruited to assist the nurse. The licensed practical nurse, who now completes a training program of 1 year or more, has found a role of increased importance in performing the simpler nursing care services. Nursing aides, who usually have limited on-the-job training only, are widely used to supplement the services of professional and practical nurses. They can perform many routine and less exacting functions well. However, the rapid increase in auxiliary workers and their use for many tasks that are beyond their competence pose a serious threat to the quality of nursing service. Aides must be properly instructed and supervised. Professional nurses by and large have not had the time and skill for such teaching and supervision.

These are a few of the factors that have placed pressure on the available supply of nurses in the health agencies of our Nation. Medical care will continue to expand and change. Institutions will become more and more complex. A variety of persons with different levels of preparation will be needed. Professional nurses will be expected to keep pace with change and growth. They must assume the roles of leaders in nursing and partners of the allied professions. They must assume the nursing-teaching-managerial functions essential to patient care and modern community organization for health care.

Nursing Education

If the many difficult and complex jobs of nurses are to be done well, if safe patient care is to be ensured, and if community services are to be strengthened and expanded, nurses must have better scientific preparation and educational background than ever before. A basic nursing education must provide not only technical skills but depth of understanding so that nurses can deal with ever-changing and increasingly complex responsibilities.

In recent years education in nursing, as in other fields, has undergone major changes. Programs have been strengthened, teachers have become better prepared. During the past 10 years, while enrollment in hospital programs has remained at a fairly constant level, there has been substantial growth in the development of university programs to prepare the nurse at the baccalaureate level. The new junior college programs are developing at a rapid rate. Graduate programs in universities and colleges are also expanding substantially.

Hospital-administered schools have made significant progress in moving from the apprentice pattern of education toward a well-planned curriculum. In direct proportion to the degree of change in educational focus, costs of these programs have risen sharply.

The time is long overdue for a planned integrated program for education of nurses in keeping with trends in contemporary society. Every appropriate educational resource will be needed to meet the enormous needs of the Nation. The future of nursing education must be of concern not only to the nursing profession but to the American people.

The Problems Ahead

In spite of improvements in nursing supply and education, the profession is not keeping abreast of fast-changing health care needs:

- —Too few schools are providing adequate education for nursing.
- —Not enough capable young people are being recruited to meet the demand.
- —Too few college-bound students are entering the nursing field.
- —More nursing schools are needed within colleges and universities.
- —The continuing lag in the social and economic status of nurses discourages people from entering the field and remaining active in it.
- —Available nursing personnel are not being fully utilized for effective patient care, including supervision and teaching as well as clinical care.
- —Too little research is being conducted on the advancement of nursing practice.

These are the principal problems for which solutions must be found.

Many basic questions need to be answered: What kinds of nurses and how many are needed to alleviate present shortages of personnel as well as to meet future requirements? How can the profession of nursing be made more attractive to potential recruits? What are the implications for nursing education of developments in medical science and in methods of organizing medical care? How can the best use be made of our limited number of nurses? What additional leadership does nursing need and how can it be developed? In what areas is research in nursing likely to be most productive? Although definitive answers are not yet available for these questions, enough is known to enable the Nation to move rapidly forward toward meeting nursing needs.

In the following chapters we consider the magnitude of the problems and propose steps designed to take us closer to realizing adequate nursing services for this Nation.

Chapter II.

The Supply of Nurses

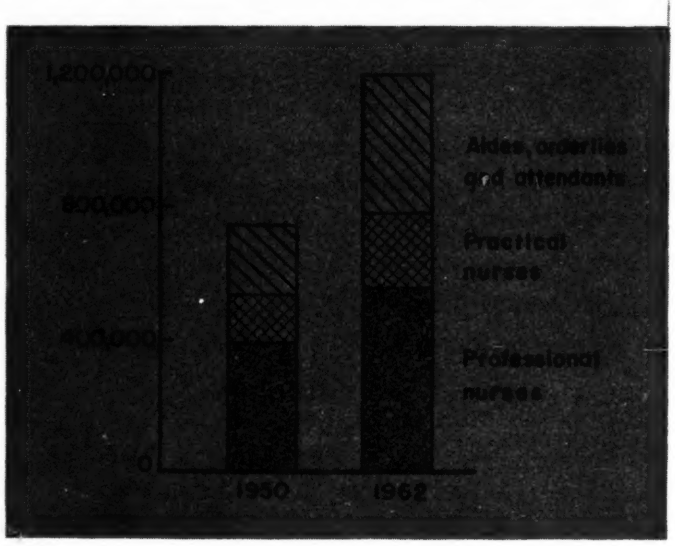
To attain the quality of nursing care essential to meet the health needs of our people, we must have sufficient numbers of well-prepared nurses. In the past decade the number of nurses has increased in relation to population, but this increase has not been enough to meet the demands.

Present Supply

Between 1950 and 1962, the number of employed nursing personnel, including professional nurses, practical nurses, and aides, orderlies, and attendants, increased from about 733,000 to 1,185,000 (figure 1).

During this 12-year period the number of professional nurses in practice increased from 375,000 to 550,000, or from 249 to 297 nurses per 100,000 population. However, the effective increase was not that large, since 70,000 of the added number were part-time workers.

***Figure 1.* Nursing personnel employed in the United States, 1950 and 1962**



Source: Appendix table 1.

In 1950 the Census Bureau enumerated some 137,000 employed practical nurses—most of them were unlicensed and had little or no formal training. In 1960 the comparable Census figure was 206,000. It is estimated that the number of practical nurses had increased to 225,000 by 1962. Of this number a significant proportion were graduates of 1-year training programs, and most practical nurses were licensed.[1]

The number of auxiliary nursing personnel also grew sharply during the period. In 1962 more than 400,000 aides, orderlies, and attendants were employed by hospitals, in contrast to some 220,000 in 1950. These were primarily workers with only a short period of on-the-job training.

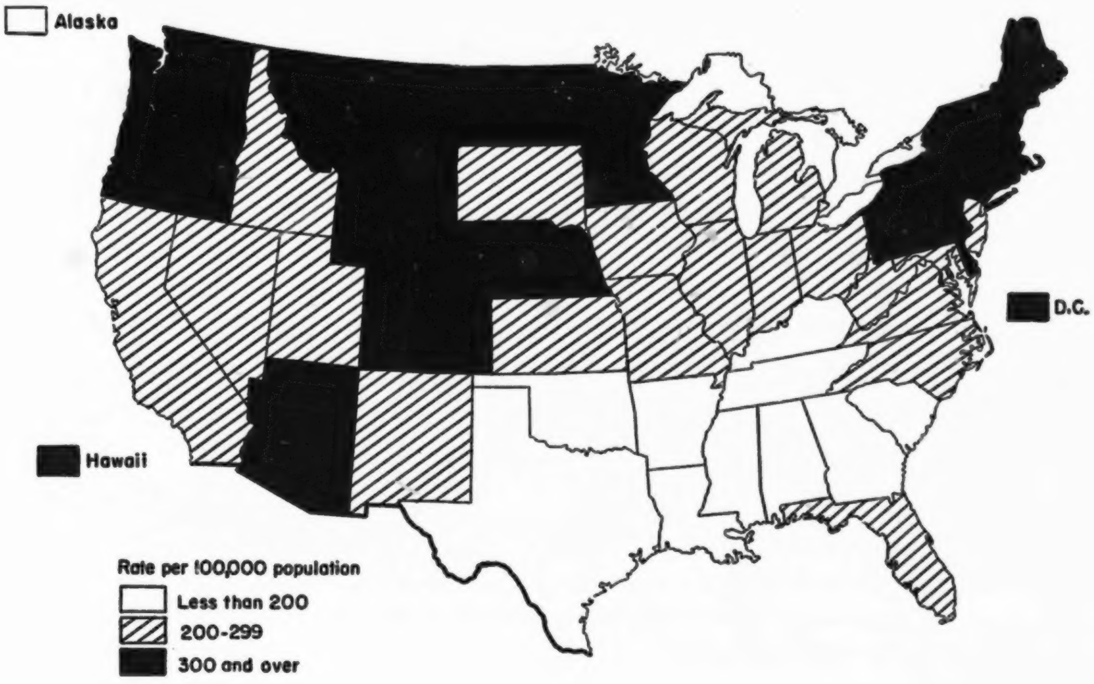
Geographic Distribution

The ratio of nurses to population varies widely throughout the United States. In 1957 (the latest year for which State totals are available), there were 599 professional nurses in practice per 100,000 population in Connecticut, but only 123 in Arkansas. For practical nurses the ratios vary (1960 figures) from a high of 229 per 100,000 in the District of Columbia to a low of 52 in Alaska. Figures 2 and 3 show these differences.

---

[1] Between 1950 and 1959, the number of licenses issued to practical nurses increased from 64,800 to 236,900. A substantial number of the licenses were granted under waiver of qualifications (*1, 2*).

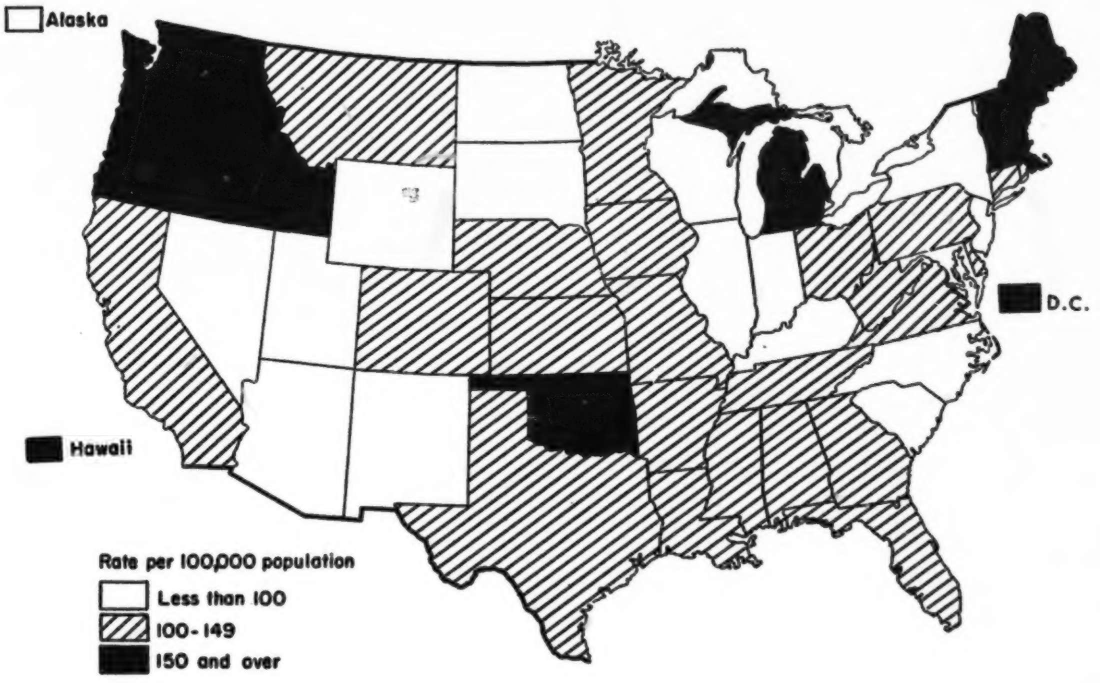
Figure 2. **Professional nurses in practice per 100,000 population, 1957**



Alaska
Hawaii
D.C.
Rate per 100,000 population
Less than 200
200-299
300 and over

Source: Appendix table 2.

Figure 3. **Practical nurses in practice per 100,000 population, 1960**



Alaska
Hawaii
D.C.
Rate per 100,000 population
Less than 100
100-149
150 and over

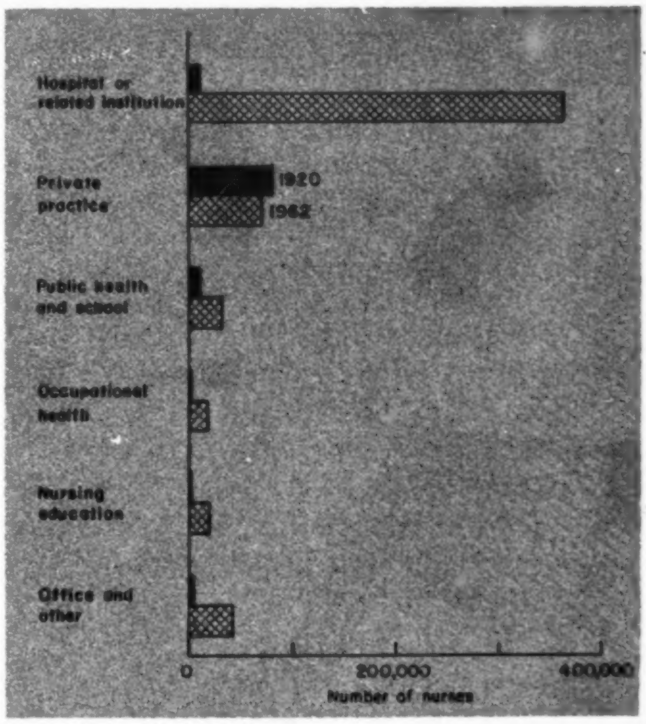
Source: Appendix table 2.

***Table* 1. Professional and practical nurses in practice in the United States, by geographic division**

Geographic division	Number of nurses		Rate per 100,000 population	
	Professional, 1957	Practical, 1960	Professional nurses, 1957	Practical nurses, 1960
United States	464,138	205,974	271	115
New England	41,267	18,406	416	175
Middle Atlantic	120,412	33,186	368	97
South Atlantic	57,217	26,155	232	101
East South Central	16,863	13,365	144	111
West South Central	25,975	22,755	159	134
East North Central	87,690	39,318	253	109
West North Central	42,352	18,222	280	118
Mountain	18,755	7,625	293	111
Pacific	53,607	26,942	275	127

Source: Appendix table 2

***Figure 4.* Fields of service of professional nurses, 1920 and 1962**



Source: References 3 and 4.

States in New England have the highest ratio of both professional and practical nurses to population (table 1). The South Central States have the lowest ratios of professional nurses to population.

One reason for the geographic variation in nurse supply is the difference in hospital use. Differences in supply also reflect differences in patterns of patient care, in provision of community health services, and in the division of nursing functions between professional and practical nurses.

Fields of Nursing

The 1923 Goldmark Report (4) furnishes a benchmark for a comparison of fields of service between the years 1920 and 1962. Figure 4 shows graphically the extent of the shift of nursing services which has taken place during these years.

Three out of five professional nurses serve on hospital staffs. Next in numerical importance are nurses in private practice, accounting for 13 percent of the nurses; and nurses in the offices of physicians and dentists, 7 percent. Public health and school nursing together claim 6 percent; and nursing education, less than 4 percent. The number of employed professional nurses and percent employed in various fields of nursing in 1962 are as follows:

Field of nursing	Number	Percent
All fields	[1]550,000	100.0
General, allied special, & tuberculosis hospitals[2]	335,500	61.0
Psychiatric hospitals	16,300	3.0
Private practice	69,500	12.6
Office nurses	40,000	7.3
Public health (excluding school)	21,800	4.0
School nurses	12,900	2.3
Occupational health	17,000	3.1
Nursing education	19,500	3.5
Nursing homes	7,000	1.3
Military service	8,500	1.5
Other	2,000	0.4

[1] Includes some 117,000 part-time workers.

[2] Exclusive of military hospitals.

Source: Reference 3.

In 1962 there were 127,000 practical nurses employed in hospitals (5). This was a dramatic increase from the 50,000 of 12 years earlier (6). Only scattered figures are available for other fields of employment of practical nurses. It is known, however, that older practical nurses are more generally employed in homes; the recent graduates in hospitals.

For the recent graduates of practical nurse programs, it is estimated that more than three-fourths are employed in general hospitals. Another 10 to 15 percent are engaged in private practice in hospitals and patients' homes. The remainder are employed in doctors' offices, nursing homes, and public health agencies.

Educational Levels

The proportions of nurses with academic degrees vary widely among fields of practice. Of the nurses engaged in teaching, one-fourth lack an academic degree. Of those engaged in public health services, 2 out of 3 lack such preparation. And in hospital service, industry, and most other fields of practice, fewer than 1 nurse in 10 has completed a college program. (Appendix table 3.)

The past few years have seen increased recognition of the need for college preparation for a substantial proportion of nurses. Since 1952 the number of professional nurses with baccalaureate degrees has increased by 40 percent, and the number with master's degrees has more than doubled. Nonetheless, in 1962 only 10 percent of all employed professional nurses held college degrees:

Educational level	Number of nurses	Percent
Total	550,000	100.0
Master's or higher degree	11,500	2.1
Baccalaureate degree	43,500	7.9
Diploma or associate degree	495,000	90.0

Source: Appendix table 3.

Summary

In the United States in 1962 there were 550,000 professional nurses in practice, 225,000 practical nurses, and more than 400,000 aides, orderlies, and attendants. The ratio of professional nurses to population varies widely among the States—there is almost a five-fold difference between the highest and the lowest State.

Three out of five professional nurses serve on hospital staffs. Thirteen percent are engaged in private practice; 7 percent are in doctors' offices; and 16 percent are in public health agencies, industry, nursing homes, military service, or nursing education.

Over half of all practical nurses in practice are employed in hospitals. Others are engaged in private practice in homes and hospitals, or are employed in doctors' offices, nursing homes, and public health agencies.

The number of nurses with academic degrees has increased substantially in recent years, but only 10 percent of all professional nurses in practice have such preparation today.

Chapter III.

Education for Nursing Today

Today there are three types of basic educational programs which prepare nurses for licensure as registered professional nurses: college and university programs leading to the baccalaureate degree, junior college programs leading to an associate degree, and hospital programs leading to a diploma. In addition to the basic programs, master's and doctoral programs provide graduate training for the more responsible professional positions. Practical nurse programs, usually administered by public vocational education systems or hospitals, offer preparation for examination and licensure as a practical nurse.

Types of Educational Programs

Baccalaureate Degree Programs

Baccalaureate degree programs are conducted by 176 colleges and universities. The curriculum includes course work in the biological, physical, and behavioral sciences, in languages and mathematics, and an upper division major in nursing.

Clinical nursing experience is planned so that students learn how to give nursing care to adults and children in hospitals and public health agencies. Both the candidates for admission and the faculty members must meet university requirements.

The curriculum comprises liberal arts as well as nursing courses. Courses in nursing include fundamentals of teaching and administration as they relate to professional nursing care.

Graduates of baccalaureate degree programs are broadly prepared to give nursing care, to interpret and demonstrate such care to others, and to plan, direct, and evaluate nursing care. They are prepared for positions as public health nurses and team leaders, and for advancement to positions as head nurses and clinical specialists. They also are prepared to begin graduate study for teaching, administration, and clinical practice (*1*).

Associate Degree Programs

Associate degree programs are offered primarily by community or junior colleges. First established as recently as 1952, today there are 84 such programs. The curriculum is offered within a 2-year period, with a ratio of general and nursing education, including clinical experience, developed in accordance with college policy and the regulations of the State licensing authority.

Graduates are prepared to give care to patients as beginning staff nurses; to cooperate and share responsibility for their patients' welfare with other members of the nursing and health staff.

Diploma Programs

Programs leading to a diploma in nursing are conducted by schools of nursing which are under the auspices of hospitals, or are independently incorporated. The first hospital school of nursing was established in 1872. Today there are 875 such programs. Entering students must be high school graduates. The course is usually 3 years in length.

All of these hospital schools have their own faculties, although many provide instruction in certain sciences through cooperation with a college or university. Curriculum content is selected primarily to prepare the graduate as a practicing nurse. Instruction and related clinical experience focus primarily on the nursing care of patients in hospitals. Instruction that combines theory and experience in nursing continues throughout the program.

Graduates of diploma programs are prepared to use basic scientific principles in giving nursing care. They are able to plan with associated health personnel for the care of patients, and may be responsible for the direction of other members of the nursing team.

Practical Nurse Programs

Programs leading to a certificate or diploma in practical nursing are operated by public vocational education systems and by hospitals. Most are administered through the public school system. The number of approved practical nurse programs has increased from 144 in 1950 to 737 today, under the impetus of substantial Federal financial aid.

The practical nursing program is usually 1 year in length. Students' educational experiences center on direct bedside care and on learning to nurse patients in selected situations. Appropriate basic concepts in biological and behavioral sciences and in nursing are included.

Graduates of programs of practical nursing are prepared for two roles: They assist professional nurses in giving nursing care, and they perform certain routine functions independently.

Graduate Nursing Education

Significant numbers of professional nurses, perhaps a third of the total, hold positions as supervisors, administrators, members of faculties of schools of professional and practical nursing, research workers, clinical specialists, and consultants. People with responsibilities such as these require graduate education. Some 48 university and college schools of nursing now provide education leading to a master's degree. Four programs provide training leading to a doctoral degree in nursing. Nurses also obtain master's and doctoral training in other related fields.

Graduate education in nursing, as in other fields, includes specialization, independent study, and the development of critical understanding.

Admissions and Graduations

Basic Programs

The trend in numbers of professional and practical nurse graduates is shown in figure 5. The striking increase in professional nurse graduates which took place in 1946-47 was a result of the Public Health Service Cadet Nurse Corps Program, which provided substantial assistance both to students and to schools during the war years. The increase in practical nurse graduates in the 1950's was made possible by the development of public vocational education programs aided by Federal funds administered by the Office of Education. Federal expenditures for these programs under the George-Barden Act increased from $800,000 in 1957 to $3.5 million in 1961.

Professional nursing.—In 1960-61, there were 49,500 admissions to basic professional nursing schools. Of these, 38,700 were to diploma programs, 8,700 to baccalaureate degree programs,[1] and 2,100 to associate degree programs (appendix table 6). The annual number of admissions to professional nursing schools has increased by about 7,000 since 1951. But in relation to the number of young people, admission rates have dropped significantly in the past few years (appendix table 8).

Within the past 10 years, the number of students entering baccalaureate and associate degree programs has increased substantially, while admissions to di-

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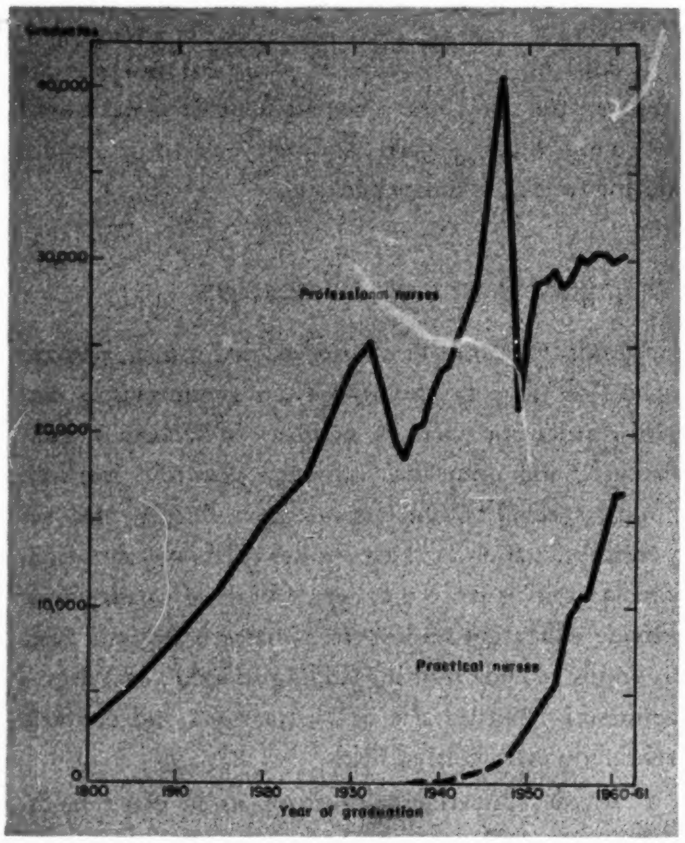
[1] Exclusive of students who are already professional nurses, and enter as upperclassmen. (See p. 13.)

***Figure 5.* Graduates of programs of professional and practical nursing, 1900-1961**



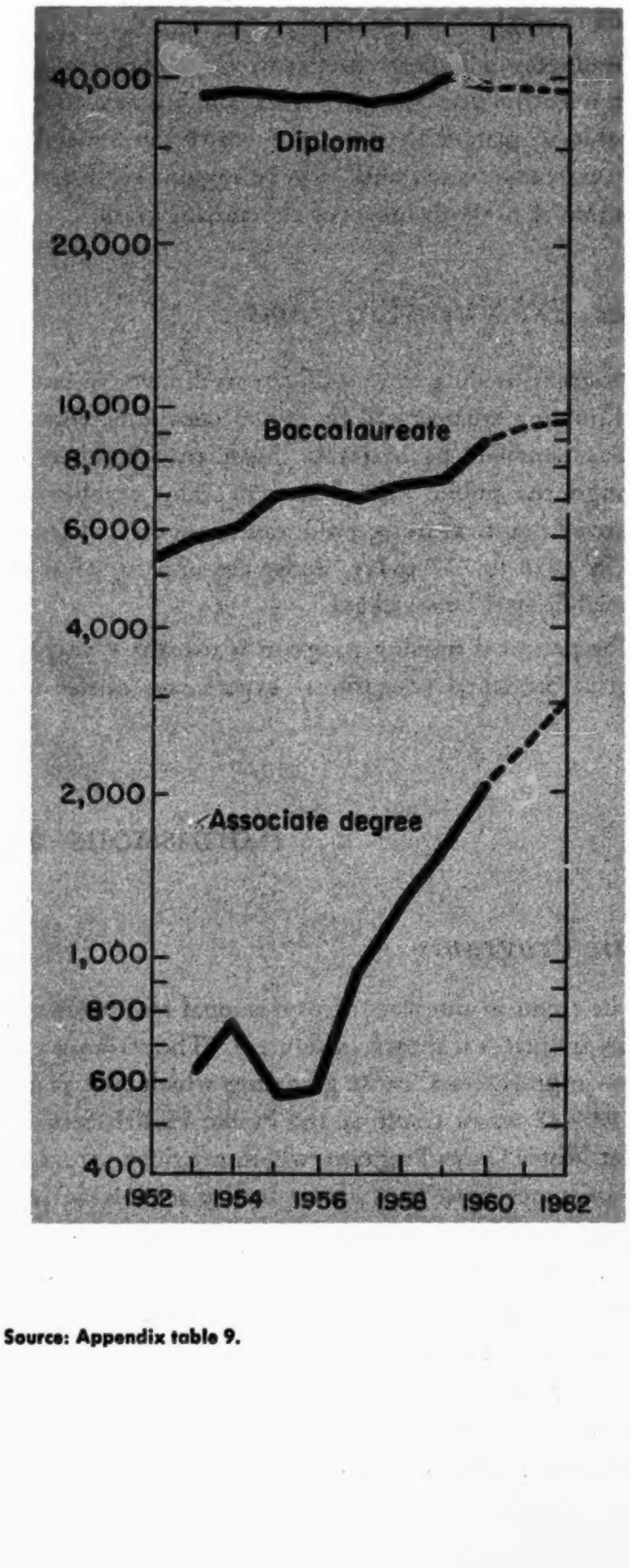
Source: Appendix tables 4 and 5.

ploma programs have levelled off. In figure 6 the number of students entering each of these types of programs is shown on a logarithmic scale, so that rates of growth can be readily compared.

About one-third of the students who enter nursing school do not complete the program. This proportion has remained at about the same level for many years. No comprehensive study of the reasons for these dropouts has been made recently. A 1947 study showed failure in classwork as most important in the first year of school, and marriage as most important thereafter (2).

Graduations from nursing schools have increased by only 4 percent since 1952, from 29,000 to 30,200 in 1961. Of these 30,200 graduates 13 percent (4,000) were graduates of baccalaureate degree programs, 3 percent (900) were from associate degree programs, and 84 percent (25,300) were from diploma programs.

***Figure 6.* Admissions to three types of basic professional nursing programs, 1952-1962**



Source: Appendix table 9.

Practical nursing.—While the number of graduates of schools of professional nursing has remained almost constant during the past 10 years, there has been a remarkable increase in graduates of schools of practical nursing. Twenty years ago there were probably fewer than 500 graduates of accepted schools of practical nursing. Ten years ago the annual number of graduates reached 4,000. By 1961 the number of graduates had risen to 16,600. The increased rate of admissions to schools of practical nursing in the past 10 years is shown clearly when measured in relation to the number of 17-year old girls:

Year	Admissions			
	Professional nursing		Practical nursing	
	Number	Per 1,000 girls	Number	Per 1,000 girls
1951 (calendar) . . .	41,667	41	5,261	5
1960-61 (academic) . .	49,487	34	24,955	17

About two-thirds of the practical nursing students are high school graduates. A third of the students who entered in 1959-60 were less than 20 years old; another third were over 35.

Geographic variation in admissions.—There is wide variation among geographic divisions in rates of admission to nursing schools. While 50 per 1,000 girls enter diploma programs in New England, the rate is only 12 in the West South Central and Pacific States.

Admissions to baccalaureate programs show an entirely different pattern. The Mountain States with 13 per 1,000 show the highest entrance rate, while the rate for the East South Central States is 3 per 1,000. The rate of admissions to associate degree programs is highest in the Pacific States. (Table 2)

In the Pacific and Mountain States nursing programs are rapidly being established in publicly-supported junior colleges and universities, while the number of hospital programs has dropped.

While the rates of enrollment for professional nurse students show substantial geographic variation, the comparable rates for practical nurse students show rather small differences.

Post-RN Baccalaureate Programs

Many graduates of diploma programs have found it necessary and desirable, both for their own professional satisfaction and to meet job requirements, to go to college to complete the requirements for a baccalaureate degree. The number of nurses completing these programs rose from about 1,900 in 1951 to 2,456

***Table* 2. Admissions to programs of professional and practical nursing, by geographic division, 1960-61**

Geographic division	Admissions per 1,000 17-year-old girls			
	Professional nursing			Practical nursing
	Baccalaureate degree	Associate degree	Diploma	
United States	6.0	1.4	[illegible]6.8	17.3
New England	7.5	0.5	49.6	19.2
Middle Atlantic	4.9	1.6	40.8	15.7
South Atlantic	4.4	1.7	20.1	15.2
East South Central	3.3	0.8	15.2	18.3
West South Central	7.1	0.3	11.5	25.5
East North Central	5.6	0.8	30.8	14.8
West North Central	7.7	0.2	38.5	16.9
Mountain	12.9	2.9	12.9	19.7
Pacific	7.6	4.5	11.6	18.1

Source: Appendix tables 10 and 11.

in 1961. These nurses are taking a prolonged program to complete what is essentially basic education for their profession. Most of them find that they can receive little academic credit for their training in a diploma program. For many of them, academic work is spread out over a period of years, as time and money permit such effort. The graduates of the basic and post-RN baccalaureate programs over a period of years are shown in figure 7.

Graduate Programs

Programs leading to master's and doctoral degrees are also enrolling increased numbers of students. In 1951 (the first year for which figures are available), 376 master's degrees were granted in nursing. In 1961, colleges and universities granted 1,009 master's degrees and 11 doctoral degrees in nursing.

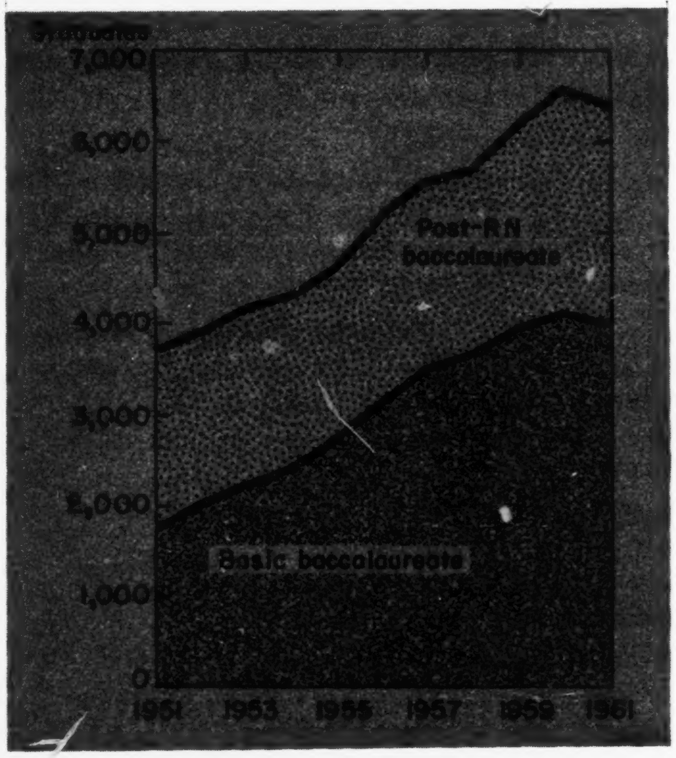
Summary

Nursing education is given in a variety of settings and at a variety of levels. Basic professional education is provided in 176 4-year baccalaureate programs, in 875 3-year hospital diploma programs, and in 84 2-year junior college programs. There are 737 practical nurse education programs. These 1-year programs are offered primarily under public vocational educational auspices with about a fourth of the programs conducted by hospitals. All of these basic programs include substantial amounts of clinical experience in hospitals.

In 1960-61, graduates of professional nursing schools numbered 30,200, including 25,300 from diploma programs, 4,000 from baccalaureate programs, and 900 from associate degree programs. In addition to the 4,000 basic baccalaureate graduates, another 2,500 graduates of diploma and associate degree programs completed academic requirements for a baccalaureate degree (post-RN baccalaureate programs). About 1,000 nurses received the master's degree, and 11 received the doctoral degree in nursing. Practical nurse programs had 16,600 graduates.

Nursing education is changing. Over the past 10 years, there has been significant growth in the number of admissions to baccalaureate and associate degree programs, while the number of admissions to diploma programs has remained steady. The enrollment in graduate educational programs has also grown. There has been a three-fold increase in admissions to programs which prepare practical nurses.

***Figure 7.* Baccalaureate degrees granted in nursing, 1951-1961**



Source: References 3, 4, 5.

Chapter IV

Needs for 1970

The Nation's supply of nurses today has great inadequacies, both in numbers and in educational preparation. Looking to the future, we see present needs greatly multiplied.

By 1970 there will be 30 million more Americans than in 1962. There will be more older people, with greater needs for nursing care. People will be better educated; they will have larger incomes and more health insurance. They will expect more of medical and nursing services. The institutions and agencies which provide health services to the people of the United States will continue their rapid growth. New health programs and facilities will be developed. Each of these changes will increase the demands for high quality nursing service.

To meet the needs of the Nation in 1970 for safe, therapeutically effective, and efficient nursing service, the Consultant Group sees need for some 850,000 professional nurses, including 300,000 with an academic degree.

Needs in Relation to Fields of Nursing

General Hospitals

In 1962, there were more than 25 million inpatients admitted to the Nation's 6,400 general, allied special, and tuberculosis hospitals. In addition there were about 100 million visits to outpatient and emergency departments. These hospitals employed more than 750,000 nursing personnel, including almost 340,000 professional nurses. A recent study of some 325 hospitals showed that about 20 percent of the positions for professional nurses were vacant, as were 18 percent of the positions for practical nurses (*1*). In New York City, over half of the positions for professional nurses in the public hospitals were unfilled in 1961 (*2*). In all hospitals in Los Angeles, private as well as public, 25 to 30 percent of the positions for professional staff nurses are reported as unfilled (*3*). In a recent survey of all general hospitals in the State of Massachusetts, it was found that 20 percent of the positions for professional staff nurses were not filled (*4*).

Because the need for professional and practical nurses is increasing so much faster than the supply, hospitals have employed ever larger numbers of nursing aides, many of whom are inadequately trained. *This pragmatic solution to the problem of shortages has produced an alarming dilution of the quality of service. In some hospitals the use of auxiliary workers has reached such extreme proportions that nursing aides give as much as 80 percent of the direct nursing services.*

Between 1950 and 1962, with the increased complexity of medical service in hospitals, the total amount of care per patient has increased. At the same time, the proportion of direct care given by professional nurses dropped from about 40 percent in 1950 to 30 percent in 1962.

A few years ago, a study was made of the relationship between the proportion of total nursing care provided by different categories of nursing personnel and patient satisfaction with care in a large sample of general hospitals (*5*). The study found that highest patient satisfaction was achieved when professional nurses gave at least 50 percent of the direct care. On the basis of these and similar studies, it is the judgment of the Consultant Group that a general ratio of 50 percent of direct patient care provided by professional nurses, 30 percent by licensed practical nurses, and 20 percent by nursing aides would provide an adequate level of patient care. This distribution has already been met by many of the hospitals in at least one State—Connecticut (*6*).

Studies directed toward achieving a greater efficiency in the use of nursing personnel (chapter IX) may demonstrate that safe and high quality nursing care can be given to patients even though less than 50 percent of the care is provided by professional nurses. By 1970 the situation should be re-examined in the light of intervening developments and new goals established for the following decade.

By 1970, we can expect that the number of general and allied special hospital beds will rise by about 200,000. To give adequate care to the increased number of patients, many more and better-prepared nurses must be available. At the same time there should be more adequately prepared administrative and supervisory nursing personnel in all hospitals. Large hospitals particularly should have well-prepared clinical nursing specialists in medical, surgical, obstetric, pediatric, and psychiatric nursing.

To provide adequate service in general hospitals in 1970 would require, in total, some 525,000 professional nurses. The number of practical nurses should be at least doubled. And even with these increases, general hospitals would still need some 125,000 nursing aides.

Psychiatric Hospitals and Other Psychiatric Services

There are 718,000 patients in psychiatric hospitals. This exceeds the number in all other hospitals combined. For these patients, 16,300 professional nurses, 9,600 practical nurses and 101,000 aides, attendants, and orderlies were employed in 1962. And while in general hospitals, which are themselves inadequately staffed, 30 percent of the direct nursing service is given by professional nurses, the proportion is less than 10 percent in mental hospitals.

The report of the Joint Commission on Mental Illness and Health (*7*) emphasizes that patients should have individualized care in therapeutic communities. During the next decade we foresee an acceleration of the trend to treat psychiatric patients in general hospitals, and the development of new facilities and services such as halfway houses, intensive treatment centers, day or night hospitals, and therapy in natural and foster homes.

Modern psychiatric therapy requires many more nurses with specialized training. By 1970, the number of professional nurses with advanced preparation in psychiatric nursing should be more than doubled. At the same time trained psychiatric aides should increase to about 180,000.

Nursing Homes

Nursing homes supply a substantial proportion of services for patients with long-term illness and for the aging who are incapacitated. The reports of the Commission on Chronic Illness (*8*), the White House Conference on Aging (*9*), and the continuing studies of the U.S. National Health Survey reveal the growing magnitude of the problem of the care of the chronically ill and the aged.

There are some 9,700 "skilled nursing care" homes in the United States, with about 350,000 patients. One out of ten of these institutions has no full-time professional or practical nurse (*10*). Another 13,000 facilities offer "personal care" or "residential care," but of these only 1 in 8 has any nursing staff. With restorative nursing—rather than custodial care—deterioration of many patients in these institutions could be prevented and some could become self-sufficient.

By 1970 it is expected that there will be 40,000 nursing homes giving "skilled nursing care." To insure adequate supervision and rehabilitative patient care, each nursing home should have at least one professional nurse plus three practical nurses for 24-hour coverage, with nursing aides providing supervised services. In all, this would require some 40,000 professional nurses and 120,000 practical nurses.

Public Health

Some 35,000 professional nurses are employed in public health agencies and schools. A very small number of practical nurses are employed by local agencies to supplement the work of public health nurses in clinics and patients' homes.

Between 1950 and 1962 the number of public health nurses increased about 40 percent, but the increase occurred largely in school nurses. In relation to population, public health nurses in health departments and visiting nurse associations actually decreased during this period.

In public health agencies, 1 out of every 20 nursing positions was unfilled in 1960. Nearly one-third of the Nation's cities of 25,000 population and over are without programs of nursing care of the sick at home (*11*). Yet expanded programs for home-nursing care are being strongly urged for the chronically ill and aged and for the mentally ill. Such programs are among the services authorized by many States under the Medical Assistance for the Aged Program, and stimulated by the Community Health Services and Facilities Act of 1961.

An accepted minimum standard for public health work in local areas is one public health nurse to 5,000 population, a figure which does not provide for care of the sick at home. At this level, 43,000 qualified public health nurses would be needed in 1970. And as many more professional nurses would be needed by public health agencies for care of the sick at home.

Occupational Health

Between 1961 and 1970 the labor force of the United States is expected to increase from 74 to 87 million (*12*). Occupational health programs will need to expand in order to promote the health and to maintain the productive capacity of the working force. Professional nurses can be expected to have more and greater responsibility for screening tests, health counseling, and treatment of minor illnesses, as well as administrative duties. By 1970, if the growth rate of recent years is maintained, 5,000 professional nurses should be added to the 17,000 presently working in this field.

Private Practice and Office Nurses

The 70,000 private duty nurses today comprise the second largest group of professional nurses. Their numbers have been decreasing over the years, however, as patients have moved from home to the hospital, and as hospital staffs have become organized to assume increasing responsibility for care of the acutely ill. In addition, some 40,000 nurses are employed in offices of physicians and dentists. Based on past trends, the demand for office nurses will probably rise by 10 percent by 1970. We have assumed that the requirements for these two groups taken together will not change.

Military Service

Some 8,500 nurses are in service with the Army, Navy, and Air Force. During the Korean War the number reached 11,300; at the end of World War II 65,000 nurses were in military service (*13, 14*). We have made no estimate of the number of nurses that the military services will need by 1970, but it seems safe to assume that the need will not decrease.

Other Nursing Services

Nurses are employed by State and national voluntary organizations, such as the American Red Cross, and by professional nursing organizations. An important small group of American nurses is employed in international health programs—under governmental, religious, and other auspices. These nurses have helped establish schools of nursing, public health nursing programs, and hospital nursing services which have already had an effect on the health of the people of the emerging nations. Another small group consists of nurses engaged full-time in civil defense activities. The needed increase for these other nursing services for 1970 is estimated at 2,000.

Nursing Education

If these many needs are to be met, schools of nursing must be expanded and strengthened. Thus the development of enough well-prepared faculty members is a critical need in nursing. In 1962, 19,500 nurses were employed in schools which prepare professional and practical nurses. In that year, there were 1,200 faculty vacancies in the professional nursing schools, and 225 in the practical nurse programs. By 1970, to provide adequate staffing for existing schools of nursing and to meet the needs of expanded enrollments will require more than 30,000 nurse educators.

Needs in Relation to Educational Preparation

To assure adequacy of nursing service a larger number of nurses must be prepared for leadership and teaching roles. Of particular importance are faculties of schools of professional and practical nursing, supervisors and administrators in hospitals and other health agencies, nurses in research, and nurses highly specialized in the areas of clinical practice.

Baccalaureate nursing education is the best basic preparation for those staff nurses who have potential for leadership. But preparation for supervision, administration, teaching, and clinical specialization requires postbaccalaureate education, in nursing as in other professional disciplines. Experience has demonstrated the importance of providing strong formal education in key areas of specialization. The challenging organizational and administrative problems of nursing require rigorous academic training in administrative theory, processes, and techniques.

The need for advanced professional training for the teacher has become so well established at even the

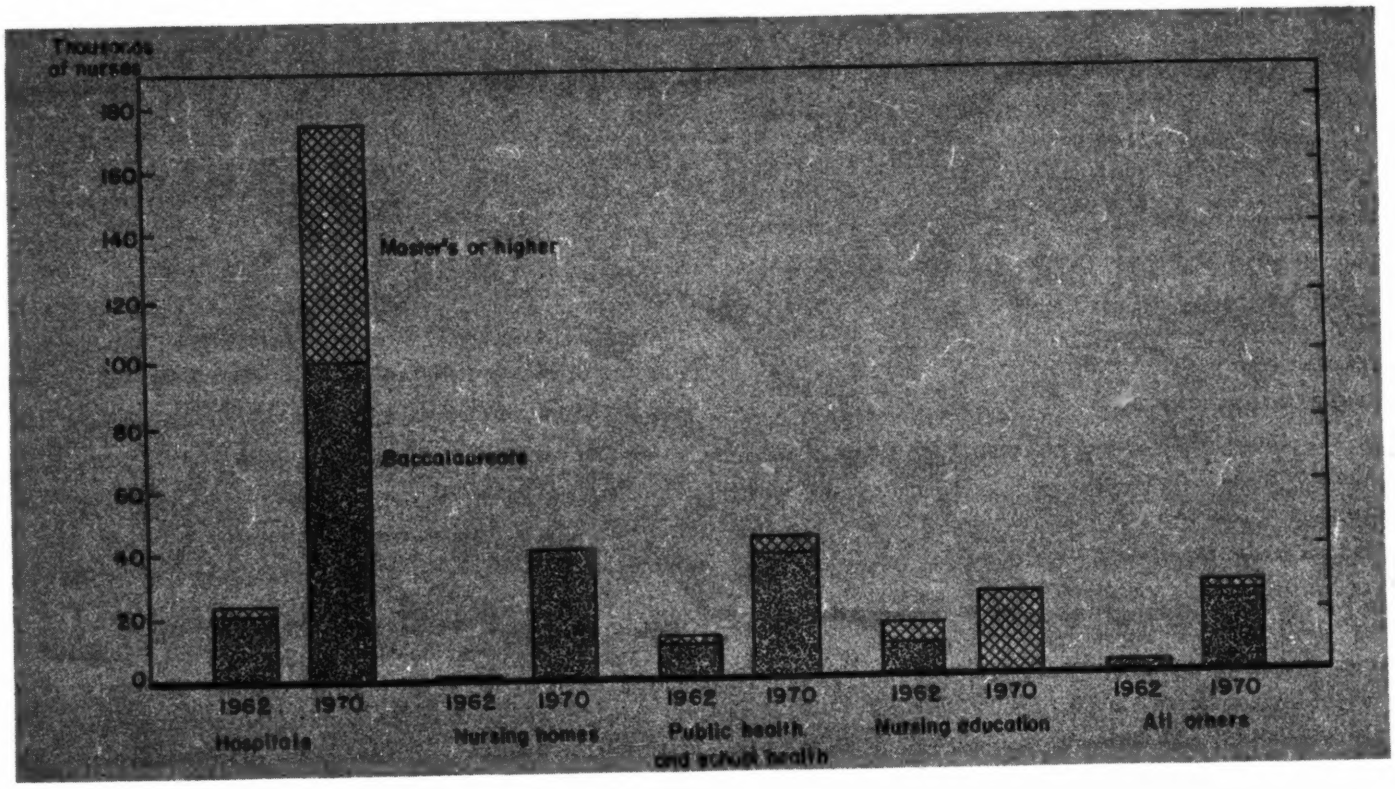


***Figure* 8. Number of professional nurses with baccalaureate or higher degrees in 1962, and number needed in 1970, by field of service**

Source: Appendix table 3.

elementary school level that there could seem to be no question with respect to its importance for nursing educators.

Many public health nursing services are finding it necessary to employ nurses without preparation in public health to provide community health services. In 1962, only 42 percent of public health nurses had the needed preparation.

The Consultant Group, in reviewing national needs, recommends these goals for educational preparation for leadership positions:

Position	***Academic Degree***
Deans of collegiate programs, faculty of graduate programs, research investigators, and nursing service directors of large hospital systems or health agency systems.	Doctorate
Teachers in all nursing education programs.	Master's
Directors and assistant directors of nursing service in hospitals, related institutions, and health agencies.	Master's
Inservice education directors, supervisors, clinical specialists, and consultants (all types of institutions and health agencies or services).	Master's
Head nurses (with present responsibilities), team leaders, public health and school nurses, and occupational health nurses (staff level).	Baccalaureate
Directors of nursing service in nursing homes giving "skilled nursing care."	Baccalaureate

For adequate nursing service in 1970 there should be 200,000 nurses with baccalaureate preparation and another 100,000 with graduate preparation.

In 1962, there were 11,500 nurses with master's or higher degrees, and another 43,500 with baccalaureate degrees. The gap between the present supply and the 1970 need for nurses with academic degrees is shown, by field of nursing, in figure 8.

Summary

Adequate numbers of nurses with suitable educational preparation would make possible urgently needed improvements in the quality of nursing services, reverse the progressive dilution of nursing services, and assure safe, therapeutically effective, and efficient nursing care for the American people.

In the best judgment of the Consultant Group, the Nation should have some 850,000 professional nurses by 1970. The need for nurses prepared for teaching and leadership positions is particularly critical, and should have priority in planning. To meet this sector of need, some 200,000 of the professional nurses should have at least a baccalaureate degree, and another 100,000 should have graduate preparation.

At a minimum, the requirements for hospitals and nursing homes indicate that there will be need for more than 350,000 practical nurses. There will also be need for some 300,000 nursing and psychiatric aides and other auxiliary nursing workers.

The Consultant Group recognizes these clear needs, but at the same time recognizes that the potential supply of students and the potential capacity of the Nation's nursing schools are such that the total need cannot be met in the near future. In the next chapter we consider feasible goals for 1970.

Chapter V.

Goals for 1970

A feasible goal for 1970, taking into account the potential supply of students and the potential capacity of the nursing schools, is to increase the number of professional nurses in practice from 550,000 in 1962 to about 680,000 by 1970, including 120,000 with an academic degree. The number of licensed practical nurses should by the same time increase to about 350,000.

The Supply of Professional Nurses

The supply of nurses in 1970 will be determined primarily by the number of graduates in the years 1963 to 1969, the extent to which inactive nurses return to active service, the number of active nurses who retire or die, and the extent to which nurses trained in other countries enter practice in the United States.

New Graduates

Professional nursing schools now admit 5.2 percent of all girls who graduate from high school. At this writing, the hospital school graduates of 1965 and the collegiate school graduates of 1966 are already in school. We can estimate on the basis of present enrollment that the number of graduates of nursing schools will increase from 31,000 in 1962 to 34,000 in 1965. If nursing schools continue to draw the present proportion of the girls in the age group finishing high school,[1] the continued increase in the number of young people could make possible some 41,000 graduates in 1970[2]. In view of the limited capacity of many nursing schools, increasing competition from college programs leading to other careers, and the rapid increase in the number of young people entering practical nurse training, there is a real possibility that this level will not be exceeded. The Consultant Group believes, however, that the number of graduates must be further increased; and that with sufficient assistance for recruitment and for aid to students and schools, we might admit better than 6 percent of the girls who graduate from high school, to produce some 53,000 nursing school graduates by 1970. (Figure 9.)

Work Patterns of Nurses

There were an estimated 550,000 professional nurses in practice in the United States at the beginning of 1962. On the basis of available data on the number and ages of graduates of schools of nursing in the United States, we estimate that there were slightly more than one million professional nurses in the United States in 1962, of whom about half were in active practice.

Today over half of the nurses in practice are married. Of the 200,000 nurses who are currently registered and not employed in nursing, 85 percent are married (*1*).

In the past decade the proportion of women working has increased significantly. In 1950, 33 percent of all women 20 years of age and over were in the labor force (*2*). By 1960, the proportion had risen to 38 percent (*3*). This increase was due primarily to the return of married women to the labor market when their children reached school age. Today, although only a third of all 25 to 34 year-old women are working, half of those in the age group 45 to 54 are at work (4).

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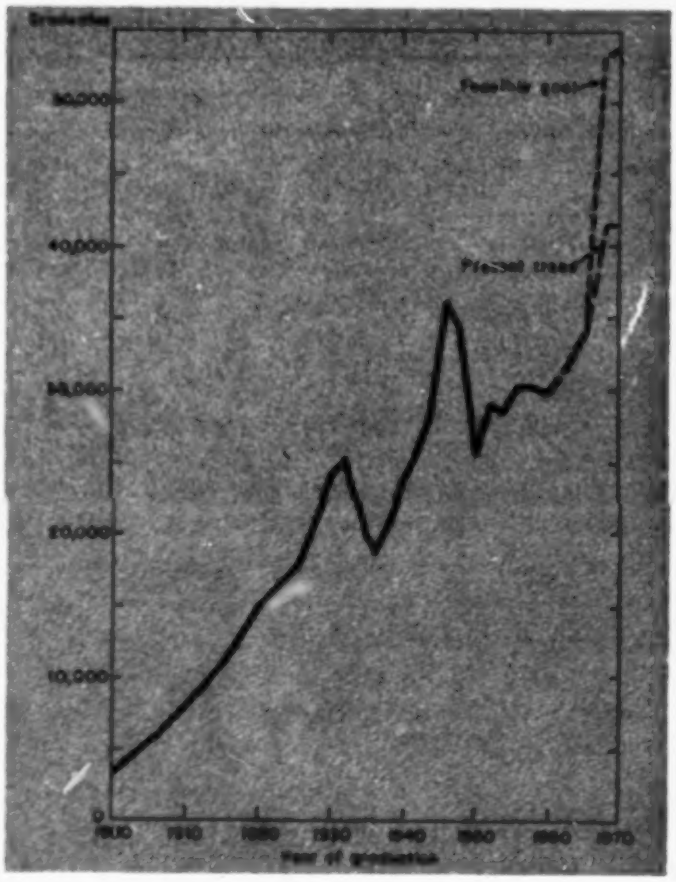
[1] For many years the number of entrants has been statistically closely related to the number of 17-year-old girls. In 1960-61 the proportion was 3.4 percent. (See appendix table 8.)

[2] Nursing schools have an average attrition rate of about 33 percent.

In the past, the return of inactive nurses to nursing service has been due in part to these changes in work patterns, and in part to the opening of hospitals in communities where there had hitherto been little employment opportunity for nurses. During the 1960's substantial numbers of inactive nurses can be expected to return to professional activity, but this group alone cannot solve the supply problems.

Figure 9. Graduates of basic professional nursing programs, 1920-1961, and projections, 1962-1970



Source: Appendix table 4 and projections by the Public Health Service.

Foreign Graduates

Some 1,800 graduates of schools of nursing in other countries obtained licenses in the United States in 1961. This number has tripled during the past decade. (Appendix table 12).

1970 Projections

If we assume that there will be between 41,000 and 53,000 graduates a year by 1969, that the present rate of return of inactive nurses continues, and that there is continued utilization of nurses trained in other countries, then the number of professional nurses in practice in 1970 can be estimated at between 650,000 and 680,000.

Table 3. Projected number of professional nurses in practice, January 1970, at 3 levels of graduation rates

Supply projection [1]	Graduates, 1969	Professional nurses January, 1970
Present trend	41,000	650,000
Feasible goal	53,000	680,000
To meet need	100,000	850,000

[1] See text for assumptions.

The Supply of Practical Nurses

The rate of training of practical nurses has increased rapidly in recent years, under the impetus of Federal assistance under the George-Barden Act. The practical nurse training provisions of this Act have been extended to 1965, with an authorization of $5 million a year. Additional aid for practical nurse education programs is now available under the Manpower Development and Training Act of 1962, which established a program of training unemployed and underemployed workers to meet present and future manpower shortages (5).

Federal grants for vocational education under the George-Barden Act require that States match Federal money dollar for dollar. Many communities have been unable to obtain the local or State money required for matching and, therefore, have not been able to establish the much needed training programs. With the enactment of MDTA some of these communities have obtained approval to use the 100 percent Federal money available under MDTA to establish practical nurse training programs. These programs are operated as part of the regular vocational program.

On the basis of the limited knowledge of the age distribution of practical nurses, it can be estimated that there will be approximately 350,000 licensed practical nurses active in 1970. Such a supply would make possible a considerable shifting of care from marginally trained aides to licensed practical nurses. To the extent, however, that the goal for professional nurses is not achieved, the demand for well-prepared, licensed practical nurses will be substantially larger.

Goals for Academic Preparation of Professional Nurses

By 1970 we should strive to have 120,000 professional nurses with academic degrees, and 560,000 with diplomas or associate degrees. The specific goals for 1970 in comparison with the 1962 levels are shown in table 4.

Within our goal of 53,000 professional nurse graduates a year, we visualize a doubling of the number of graduates of the basic baccalaureate programs, an increase of 15,000 a year in graduates of diploma programs, and of 4,000 a year in graduates of associate degree programs.

We believe that it is possible to double the number of graduates of basic baccalaureate programs by 1970. But to meet the needs for teachers and other specialists, the number of nurses completing post-RN baccalaureate programs should also be doubled.

At the same time, the number of nurses receiving master's and doctoral degrees must triple. In total, we should meet the following levels of graduation:

Type of program	Number of graduates 1961	Goal for number of graduates 1970	Percent increase
Master's or higher degree	1,020	3,000	194
Post-RN baccalaureate	2,456	5,000	104
Total basic programs	30,267	53,000	75
Basic baccalaureate	4,039	8,000	98
Diploma	25,311	40,000	58
Associate degree	917	5,000	445

Source: Appendix table 6.

Table 4. Number of professional nurses in practice, by educational level, 1962 and 1970 goal

Educational level	1962 actual		1970 goal	
	Number	Percent	Number	Percent
Total	550,000	100.0	680,000	100.0
Master's or higher degree	11,500	2.1	25,000	3.7
Baccalaureate degree	43,500	7.9	95,000	14.0
Diploma or associate degree	495,000	90.0	560,000	82.3

Source. Appendix table 3.

Implications of These Projections

The Consultant Group believes that with a very substantial program of incentive and assistance, we might hope to have some 680,000 professional nurses in practice by 1970. This means that we will not be able to meet all of the needs which already have been clearly recognized. On the other hand, we will have increased the ratio of nurses from 297 to 317 per 100,000 population.

What do these figures mean in terms of nursing service? We can expect that in 1970, as now, some areas of the country and some fields of service will be relatively well-supplied, while others will continue to suffer acute shortages.

In our analysis of needs, we expressed our judgment that 50 percent of the direct care of patients in general hospitals should be provided by professional nurses. In the light of the expected supply of nurses, a more reasonable goal for direct services to patients, as a national average, would be: professional nurses, 38 percent; licensed practical nurses, 30 percent; and auxiliary nursing workers, 32 percent. Further acceleration of training programs for practical nurses could make possible additional practical nurse service to replace some of the less skilled services of aides and attendants.

Similar compromises will continue to be necessary in every field of nursing activity. Under these circumstances, it is of the utmost importance that we make the best use of every nurse. The first essential is the best possible preparation.

Summary

The Consultant Group finds a need for approximately 850,000 professional nurses by 1970 to provide services which are safe, therapeutically effective, and efficient. It is not feasible to reach this number in view of the number of potential enrollees and potential school capacities. Moreover, acceleration in numbers of nurses must be safeguarded by sound education if quantitative and qualitative improvements in nursing care are to be achieved.

For these reasons, the Consultant Group believes that a feasible goal for 1970 is to increase the supply of professional nurses in practice to about 680,000.

To meet this goal, schools of nursing must produce 53,000 graduates a year by 1969—a 75-percent increase over 1961. Such increases will require a major expansion in the facilities and teaching staff of degree, diploma, and associate degree nursing education programs, which in turn will require very substantial financial assistance.

The Consultant Group estimates that 350,000 licensed practical nurses will be needed in 1970. Federal support programs for practical nurse education make it probable that this number will be reached.

Most urgent is the need to increase the numbers of nurses with academic preparation for teaching, supervision, and other leadership positions. We believe that with adequate support the number of nurses prepared at the baccalaureate level can reach 13,000 a year, and at the master's level 3,000 a year. These levels would make it possible to increase the total number of nurses with a baccalaureate degree to 120,000 in 1970, including 25,000 nurses with graduate preparation.

Part Two

MOVING TOWARD the GOALS

Chapter VI.

Recruitment for Nursing

To achieve even part of the required expansion in nursing school admissions, and at the same time raise the quality of students, we must find new ways of reaching greater numbers of talented candidates. We must demonstrate that nursing at each of its levels offers intellectual challenge, opportunities for advancement, a reasonable standard of living, and a chance to contribute significantly to human well-being. And we must make it financially possible for more students to undertake the necessary training.

Related to the task of recruiting new students is that of encouraging inactive nurses to return to the profession. Although in the past decade large numbers of these nurses have resumed active practice, we need to do more to increase this trend.

More Students in Basic Programs

Between 1955 and 1960, admissions to schools of nursing increased from 46,500 to 49,500—an increase of 6 percent. During the same period, the number of girls entering colleges and universities increased from 257,000 to nearly 387,000 a year, an increase of 50 percent. These college-bound young women represent the best recruitment potential for nursing.

The need for vigorous recruitment efforts has been emphasized by a recent study of applicants to diploma and associate degree programs (*1*). Of 59,300 applicants in 1960, 41,500 were enrolled, 1,200 were accepted but did not enroll, and 800 were not admitted because of the lack of capacity in the schools to which they applied. The remaining 15,800 were rejected, mainly because of poor academic performance in high school or poor performance on entrance tests.

Recruitment Programs

The Committee on Careers of the National League for Nursing administers the only national recruitment program for both professional and practical nursing. The American Hospital Association, the American Medical Association, and the American Nurses' Association are co-sponsors, and the membership includes representatives of these and 12 other national organizations. A major focus of the Committee's program has been the stimulation of State and local recruitment efforts.

The Committee's program also includes the national sponsorship of Future Nurses' Clubs. These coeducational and vocational exploration clubs are found in almost 4,000 high schools. Of the club members graduating from high school in 1961, 61 percent entered programs of study for health careers—47 percent entering professional nursing programs, 6 percent practical nursing programs, and 8 percent other health careers.[1]

The effectiveness of the nursing recruitment program, however, has been limited by the fact that there have never been more than four people on the field staff of the Committee on Careers. State and local programs have been carried out chiefly by volteers, many with other full-time jobs. Some schools have assisted in coordinated recruitment efforts as well as recruiting for their own student needs. Few cities, States, or regions have salaried employees for recruitment. Recruitment activities carried out as part of State and regional planning to meet health needs also have been far from adequate in relation to the problem.

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[1] Based on returns from 943 clubs with 8,379 graduating members.

Recruitment for nursing should be coordinated with recruitment for other health professions. Recognizing this need, the Committee on Careers assists in the interpretation of personnel needs in allied health fields and cooperates insofar as possible with the health careers program of the National Health Council. But while some coordination nationally and locally has come about through the Health Careers Program, the need is still far from met.

School and college counselors can play an influential role in guiding students into nursing. Unfortunately, however, many counselors have conceptions of the nurse based on old stereotypes. An understanding of modern nursing and programs of nursing education—their challenges and satisfactions—must replace the inadequate information now available to counselors.

The Consultant Group believes that the Federal Government can serve as a catalyst by providing funds and other assistance to strengthen and enliven recruitment activities.

THE CONSULTANT GROUP RECOMMENDS:

The Public Health Service should expand its efforts and give financial and other assistance to State, regional, and national agencies for recruitment programs for nursing and other health personnel.

Enlarging the Recruitment Pool

Restrictions on admission of certain groups to nursing schools result in serious loss to the profession. Men, married women, older women, and members of certain racial groups, particularly Negroes, are not accepted by all nursing schools.

Minority groups.—Even though the majority of professional nursing schools state that they admit Negroes, less than 3,700 Negro students are enrolled. This represents 3.1 percent of the total enrollment, the same proportion as in 1950 when 3,000 Negroes were enrolled. The small proportion is probably due both to discrimination in admissions and to inadequate secondary education.

In contrast, many Negro students are enrolled in schools of practical nursing. In 1956-57, the latest year for which figures are available, 25 percent of the students were Negro (2). If the same proportion now holds, there are more than 6,000 Negroes in these schools.

The American Nurses' Association promotes full professional and educational opportunities for all nurses on the basis of professional competence, and has sought to eliminate discrimination in all areas of nursing education and employment. All State nurses' associations now accept Negroes into membership.

The Consultant Group believes that every nursing school should admit students without regard to race, creed, or nationality. We believe that accreditation should be withheld from schools discriminating on such a basis.

Married and older women.—Before World War II, schools of nursing (like many other schools) rarely accepted married women. Today, somewhat more than half of them do. All of them should. Many also have a restriction on age, usually 35. Although no figures are available on the ages of professional nurse students, a third of the practical nurse students are over 35.

Many married women whose children have reached school age express an interest in going into nursing. Clearly, older women who do not have specialized training in an occupational field constitute an important resource for recruitment into nursing. The field of teaching has recognized this potential, and is actively recruiting from this group. Nursing should do likewise.

Men.—Fewer than 40 percent of the schools of nursing accept men as students. In 1960, only 1,400 male students were enrolled, a little more than 1 percent of the total.

We recognize two deterrents to the recruitment of men: inadequate economic incentives, and the public conception of nursing as a woman's occupation. Years ago, primary and secondary school teaching was traditionally assigned to women. Yet, today there are slightly more male teachers in secondary schools than there are women. Social work, once a woman's profession, now includes over 40 percent men. Men in nursing are making outstanding contributions as leaders and teachers. We urge that action be taken to attract more men to nursing.

Providing Financial Assistance to Students

In a recent sample survey, almost half of the degree programs reported that most of their students needed full or partial financial help. Approximately 25 percent of the diploma programs stated that most students needed some financial assistance. The need for financial assistance probably will be even greater among the increased numbers of students whom we hope to attract into nursing. Of 1,200 students who were accepted by diploma schools in 1960 but did not enroll, 33 percent gave lack of financial assistance as the reason.

The costs of nursing education to the student vary widely. In general, charges are lower in institutions that have some public support or that absorb some of the educational costs in the overall hospital operating budget.

Recently, the National League for Nursing made a study of charges to students based on data in 871 current school catalogues (*3*). Charges to students reported by the median 2-year associate degree program varied only slightly from those reported by the median 3-year diploma program. The charges reported by the median 4-year baccalaureate program were considerably higher (table 5).

The total charges include tuition and fees, uniforms, equipment, books, other miscellaneous costs, and for some schools, room and board for the entire program or for part of it. Only 195 (or 22 percent) of the 871 schools reported that charges to students included payment for room and board—68 percent of the baccalaureate degree programs, 43 percent of the associate degree programs, and only 16 percent of the diploma programs. As in other branches of higher education tuition can be expected to increase in coming years.

Present sources of support.—Scholarship and loan funds for nursing students are very limited. The Committee on Careers of the National League for Nursing has pointed out: "Nursing scholarships exist. But they are far too few, often too small, often unknown to those who could benefit, and many times out of step with nursing education needs." (*4*)

Limited financial aid is now available, mostly through professional groups and business and industrial firms, and some national voluntary organizations. Only a little more than a dozen State legislatures have set aside money for nursing students. The amounts provided are usually very small per individual and are not sufficient for a full program. Maximum use is now being made of these funds.

Loan support to students in basic baccalaureate and associate degree nursing programs (although not diploma programs) is available through the *National Defense Student Loan Program* of the National Defense Education Act of 1958. The NDEA program provides colleges and universities with matching funds from which the institutions may make loans to needy undergraduate and graduate students. For each $9 of Federal funds, the institution must contribute at least $1 to the loan fund. In 1 year, a student may borrow a sum not exceeding $1,000,

Table 5. Charges to students for entire program of basic professional nursing education, 1960

Type of program	Number of programs	Total charges		Median charges exclusive of board & room
		Interquartile range	Median	
Baccalaureate degree (4 yrs.) . .	99	$1,160 to $4,615	$3,250	$1,200
Associate degree (2 yrs.)	21	190 to 2,200	515	390
Diploma (3 yrs.)	751	410 to 840	590	570

Source: Reference 3.

and, during his entire course in higher education, a sum not exceeding $5,000. The repayment period of the loan begins 1 year after completion of full-time course work and extends over a 10-year period with interest at 3 percent per year, starting to accrue at the beginning of the repayment period. This program also has a forgiveness clause so that if a borrower becomes a full-time teacher in a public elementary or secondary school, a maximum of 50 percent of the loan (plus interest) may be canceled at the rate of 10 percent for each year of teaching. In 1962 about 800 nursing students in baccalaureate and associate degree programs had loans under this program (about 5 percent of the students enrolled), although their work in nursing does not make them eligible for the "forgiveness" provisions.

The Army and the Navy offer a few scholarships covering 1 or 2 years of study to student nurses who agree to serve for a specified time with the military forces after graduation. The Public Health Service has maintained for some years a program of financial aid to advanced nursing students. But no scholarships are specifically available for students of basic professional nursing.

The World War II Cadet Nurse Corps Program provided Federal payment of tuition, fees, uniforms, and stipends, for students enrolled in basic professional nursing programs. When the program was terminated in 1948, $160 million had been spent on nurse training, an average of $1,000 for each of the 160,000 students enrolled. This program had a major impact in increasing the number of nurses.

The Manpower Development and Training Act authorizes allowances to trainees who meet unemployment and other eligibility criteria. These allowances cover cost of training and subsistence. Funds for practical nurse training under this program became available in the fall of 1962. By the end of 1962, 14 new training projects had been approved under this program.

Recommendations for increased financial assistance.—The Consultant Group is convinced that a substantial number of nursing students must have financial assistance if we are to achieve the minimal levels of nursing care that will be needed by 1970. Although all sources of financial aid should be tapped, we believe that the Federal Government should provide substantial assistance to students. In no other way can there be the necessary expansion of nursing school enrollments. We urge that this stimulation be provided in two ways—through Federal student loan funds provided to nursing education programs and through scholarships to selected baccalaureate students.

Loan program.—Federal loan funds should be made available to all diploma, baccalaureate, associate degree, and practical nursing education programs approved by agencies designated by the Surgeon General. In this program, the pattern established in the National Defense Student Loan Program should be followed, specifically the provisions relating to the length of time and the amount of the loans, the length of repayment period, and the interest rate. Funds should be made available to provide loans for 20 percent of a school's admissions, and the loans should be 50 percent cancelable at the rate of 10 percent for each year of full-time nursing service provided by the student after graduation.

The National Defense Student Loan Program has proved effective in attracting new students to educational programs other than nursing. The Consultants believe that loans for nursing education will be equally effective in stimulating expansion in this field.

THE CONSULTANT GROUP RECOMMENDS:

Federal funds should be made available to schools of professional nursing and of practical nursing approved by agencies designated by the Surgeon General of the Public Health Service, to enable them to offer low-cost loans, cancelable in part by a specified number of years of full-time employment in nursing, to eligible or enrolled students who show reasonable promise of success in nursing and who can provide evidence of financial need.

Scholarship program.—The Consultant Group has emphasized the critical shortage of nurses with baccalaureate preparation for leadership and teaching positions. To meet this need, the Consultant Group urges that special effort be made to attract highly qualified, college-bound high school students to baccalaureate nursing programs by making available a limited number of scholarships from Federal funds.

We suggest that these scholarships be made available to 10 percent of the annual number of admissions to accredited baccalaureate programs. Although few in number, these scholarships could have a significant impact on recruitment of college-bound high school students. They would focus attention on the academic nature of professional nursing and should interest more honor students in pursuing a nursing career. They would also stimulate the establishment of scholarships from other sources.

THE CONSULTANT GROUP RECOMMENDS:

Federal funds should be made available to provide scholarships to attract a greater number of highly qualified high school graduates who need financial assistance into collegiate programs of nursing which are nationally approved by agencies designated by the Surgeon General of the Public Health Service.

Return of Inactive Nurses to the Profession

An estimated half million women trained as professional nurses are not now practicing. Approximately half of them maintain their registration. Many are married women with young children and can be expected to return to nursing when family responsibilities become less pressing.

Several incentives are important in attracting inactive nurses back to practice:

1. Some hospitals have been quite successful in recruiting inactive nurses by offering refresher courses. State and local leagues of nursing and community agencies have also offered such programs. A recent study (5) shows that out of 453 inactive nurses offered refresher training, 77 percent returned to work after completing their re-orientation.

2. Small rural hospitals have been able to recruit significant proportions of their nursing staffs from inactive nurses who live nearby. Expansion of home-care programs will offer new job opportunities to inactive nurses in places close to their homes.

3. By arranging for convenient working hours hospitals have brought many inactive nurses back to active service. Over 100,000 nurses now work on a part-time basis. This is more than double the number who were working part time in 1950.

4. Personnel policies in many health agencies will have to be revised—including changes in Civil Service regulations which prohibit part-time employment—if employment of part-time nursing personnel is to be expanded.

5. Economic incentives are very important, not only in recruiting inactive nurses, but also in retaining them in their jobs. Many nurses, especially those with small children, are able to work only if their earnings are enough to pay for domestic help, as well as to give them some personal return.

Improving the Attractiveness of Nursing as a Career

The Consultant Group emphasizes that nursing must attract more and better-qualified recruits. A nursing career can be attractive and exciting, but to convince as many potential nurses as possible of this fact, we must increase understanding of the opportunities and challenges which the profession offers.

Economic rewards are important in attracting and holding members of a profession. Deficiencies in economic incentives for nurses must be eliminated, as to both salaries and fringe benefits. Nursing does not compare favorably in this respect with other careers requiring equivalent capabilities and education. Salary levels in nursing are relatively low, and the differentials between beginning and top level salaries are too small to serve as career incentives.

Salaries of hospital staff nurses are lower, on the average, than those of secretaries. There is little opportunity for advancement for the nurse who wants to continue to give direct patient care. Even in top administrative positions, monetary compensation is not commensurate with responsibility.

Social Security coverage is voluntary for governmental and nonprofit hospitals. Hospitals have increasingly secured these benefits for their employees. Today over 60 percent of all employees in State and local governmental hospitals and about 95 percent in nonprofit hospitals are covered by OASDI. But despite these rates of coverage, considerable numbers of personnel still are not so protected.

Nonprofit and State and local governmental hospitals are exempted from the Federal Unemployment Tax Act, which means that States do not have this incentive to bring hospital employees under unemployment insurance. These same hospitals are exempted from the National Labor Relations Act so that they are not compelled to allow their employees to bargain collectively. All hospitals (including proprietary hospitals) are exempted from the Fair Labor Standards Act, and are thus not required to meet Federal standards as to minimum pay rates.

In today's society, salaries and related benefits not only determine standards of living but also influence the prestige of an occupation. Until the economic status of the nursing profession is improved, nursing will be unable to compete successfully with other fields where pay and benefits are more attractive.

Chapter VII.

Expanding and Improving Nursing Education

In the face of the need for a greatly increased number of well-prepared nursing school graduates, the nursing education system faces a grave challenge. To provide the required number of appropriately trained nurses, we must have a well-organized educational structure consistent not only with the needs for nursing service but also with the general patterns of education in the United States. At the same time, it is essential that we provide at once for increased school capacity, more and better-prepared faculty, improved teaching methods, adequate operating funds, and systems of accreditation which continuously exert pressure to maintain and raise the standards of education.

Future Patterns of Nursing Education

The present educational structure for the training of nurses lacks system, order, and coherence. There is no clear differentiation as to the levels of responsibility for which the graduates of each type of program are prepared. The Consultant Group is convinced that the baccalaureate program should be the minimal requirement for nurses who will assume leadership positions. Although the length and nature of training differ markedly in the diploma and associate degree programs, graduates of both are expected to carry the same responsibilities. The situation is aggravated further by the fact that almost all kinds of nurses must carry responsibilities for which they are not adequately prepared.

The present lack of relationship between types of nursing education programs carries penalties for the student who begins as a nurse trained in a hospital school and then wishes to advance. Such a student usually cannot seek a baccalaureate degree without sacrificing 2 or more years, because academic credits for training and experience in hospital schools are severely discounted. Similarly, a practical nurse who wishes to become a professional nurse must start again, with little or no academic credit for her training and experience. In contrast, the nurse trained in an associate degree program has some valid academic credits toward a baccalaureate degree.

To create order out of the present confusion, we need a careful examination of the systems of nursing education. We also need to determine how these systems can be merged or related in a pattern that will adequately prepare the nurses of the Nation to render better patient care and at the same time allow them to advance professionally in an orderly manner.

A broad study of the patterns of basic nursing education is overdue. This study should do more than review curriculum. It should consider institutional auspices, teaching methodology, and experimentation with new procedures and concepts. It should address itself to identifying the changes necessary so that nurses can meet their professional responsibilities in times of technological and scientific advance.

Such a study should be comprehensive, perhaps requiring 5 to 10 years. Although leadership must come from the nursing profession, there must be broad participation of related professional and educational groups, private foundations, and government agencies. Financial support of the study should be sought from all sources. Nonofficial support should provide at least the major part of the budget.

Changes in the structure of nursing education will require great flexibility and a break with some entrenched patterns. The organizations concerned must be prepared to accommodate these changes on an experimental basis and not permit sound projects to be blocked because of regulations or laws which may hamper such experimentation.

To assist States and regions in financing the development of plans, and to assist existing schools and educational institutions or systems to meet the costs which would be incurred in undertaking reorganization and developing new programs, project grants from the Public Health Service should be available as recommended later in this chapter.

Although change is essential, precipitous action should be avoided. Otherwise, training resources that are sorely needed now will be lost before alternative programs are available. Nursing education will require the continued cooperation of hospitals and educational institutions regardless of the organizational and administrative patterns that emerge.

THE CONSULTANT GROUP RECOMMENDS TO THE NURSING PROFESSION:

A study should be made of the present system of nursing education in relation to the responsibilities and skill levels required for high-quality patient care. This study should be started immediately so that nursing education programs can benefit as soon as possible from the findings. Funds for such a study should be obtained from private and government sources.

Such a study will provide the basis for long-range planning for a sound educational system for nursing. For the present and near future, however, there is a critical need to support and improve present and evolving programs of education. Health services in general and the nursing profession in particular will depend upon the output of the present system for a number of years to come. The purposes of the remaining recommendations in this chapter are to improve the capability of the system to meet current needs and to accommodate quickly to more far-reaching changes in nursing education.

Increasing School Capacity

Professional nursing schools in 1961 accepted about 50,000 entering students. If we are to meet our 1970 goal, the class entering in 1966 should number 80,000. This means more than a 50-percent increase in admissions in 4 years. How can the schools handle such a load?

To examine the extent to which present schools of nursing can expand, the staff for the Consultant Group surveyed the capacity of 143 professional schools of nursing. This survey included about 36 percent of the baccalaureate degree programs, 8 percent of the diploma programs, and 18 percent of the associate degree programs.

On the average, these schools reported in 1961 that they could expand enrollment by 21 percent with existing staff and facilities:

Type of program	Percentage increase
All programs	21.0
Baccalaureate degree	17.0
Accredited	11.4
Nonaccredited	31.9
Associate degree	44.0
Diploma	21.4
Accredited	19.8
Nonaccredited	28.1

Source: Unpublished data, Public Health Service.

Projecting this rate to all schools of professional nursing provides an estimated capacity of 60,000 entrants—well below the 80,000 necessary by 1966.

Most programs will require additional classrooms, laboratories, offices, or living accommodations in order to increase their enrollments. Only a small proportion of the schools can finance such expansion completely from their own resources. The remainder will require financial help for at least 50 percent of construction cost.

Because of the need for nurses in teaching and leadership positions, the highest priority for expansion is in the baccalaureate and graduate programs. The baccalaureate programs should double their graduates, and the graduate program capacity should be tripled. Yet the accredited baccalaureate programs, which have 78 percent of the students, could increase only 11 percent with available facilities and staff. If admissions to accredited programs increase by this amount, and if there is some expansion in nonaccredited programs, we will still need 3,500 additional admissions to basic baccalaureate programs a year. Only a part of this number could be provided through further expansion of existing schools. The Consultant Group believes that it will be necessary to establish 30 or more new baccalaureate programs in the near future. So far as possible, these schools should be established within university medical centers.

There has been remarkable development of associate degree programs in nursing in junior colleges in the past 10 years. There is every evidence that the rapid growth of junior colleges will continue, and that associate degree programs in nursing will share this growth. The Consultant Group sees a fourfold growth of these programs by 1970.

But even with such substantial expansion of baccalaureate and associate degree programs, meeting our goals will require more than a 50-percent increase in the number of admissions to hospital school diploma programs. Today there are 875 such programs. The Consultant Group is convinced that in the next few years the need is to improve, strengthen, and expand existing programs. Some of the existing schools, however, will need assistance in order to construct adequate and expanded educational facilities.

Diploma programs are the only nursing programs which have had Federal assistance for construction. A part of the need of these schools has been met through Hill-Burton hospital construction funds. However, this construction must be part of the total State hospital construction plan. To date, only about five new schools have been built under this program, although about 80 projects have included educational facilities for nurses.

To aid and stimulate the expansion of nursing school capacity,

THE CONSULTANT GROUP RECOMMENDS:

Federal funds should be provided to help meet the construction needs for educational facilities for schools of nursing.

Nursing School Planning

If new and expanded programs of nursing education are to be established in places where they are needed and in educational settings where they will thrive, it is essential that they be intelligently planned. Such planning must take into consideration relationships between nursing education and the education of other health personnel. It must consider needs for cooperation among adjoining geographic areas. It must include attention to the proper design of teaching facilities.

Today no health profession, health institution, or community health service really functions alone. The education of nurses, as well as of other health personnel, must emphasize the interdependence of the professions in the provision of care and service. Increasingly this is being accomplished through university medical centers which include schools of nursing as well as schools of medicine, dentistry, and related fields. We need to experiment further with ways of coordinating teaching programs for the various health professions.

Cooperation within and among States in the planning of nursing education programs is desirable both to prevent needless duplication of effort and as a basis for pooling of scarce training resources. Various States have made studies of nursing manpower and education needs. Such joint programs as those of the Southern Regional Education Board and the

Western Interstate Commission on Higher Education have made significant contributions to the education of nurses, particularly at the graduate level. Extension of cooperative efforts not only in the various regions of the Nation but also in many States and localities should be encouraged.

Today there are few guidelines for the development of sound architectural plans for nursing school facilities. Many questions must be considered. Among them: How can the facilities be designed to meet present needs and at the same time be readily adaptable to changing educational requirements? What physical features can be incorporated to encourage collaboration in the teaching of various types of health personnel? Although no prototype plan can meet all the special needs of a particular school, such plans can provide a useful point of departure for the design of facilities to meet particular needs.

As a means of promoting sound planning of nursing schools,

THE CONSULTANT GROUP RECOMMENDS:

Federal funds should be made available for grants to institutions, regional, State and other public and nonprofit organizations or agencies for planning and determining the need for new nursing school facilities or new, expanded, or improved programs of nursing education.

Federal funds for planning grants for construction of nursing education facilities should be made available to universities, colleges, and schools of professional nursing which are ready to expand or establish new schools of nursing.

Steps should be taken by the Public Health Service and the nursing profession to prepare prototypes of school facilities most conducive to efficient and effective teaching of nursing.

More and Better-Prepared Faculty

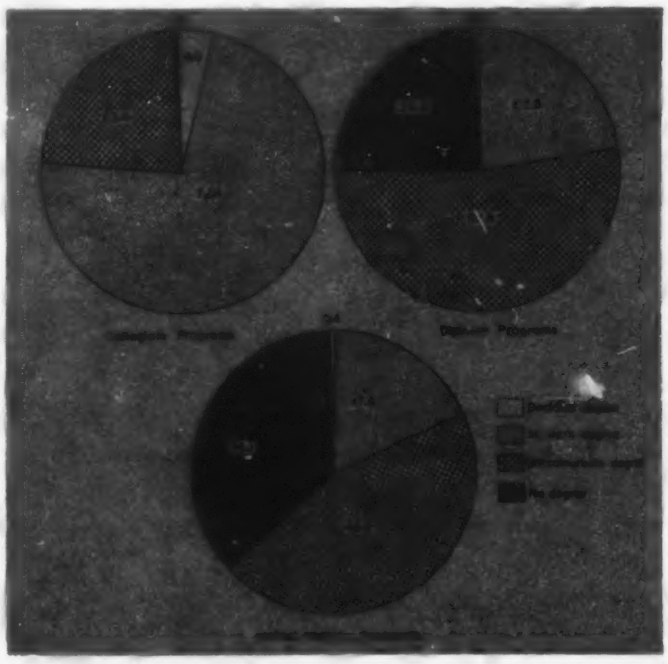
Increasing the number of well-prepared teachers in schools of professional and practical nursing is of critical importance to the future of nursing. To meet our training goals, as noted earlier, the number of teachers should be increased from the present 19,500 to over 50,000 by 1970.

While a master's degree is considered a standard for teaching, almost 70 percent of the nurse educators do not have this degree. Deans of collegiate schools of nursing and some of the faculty members engaged in research should have doctoral degrees, but only about 300 nurses now have such degrees.

In diploma schools and in practical nurse programs, substantial numbers of faculty members lack even a bachelor's degree. One-fourth of the instructors in hospital schools have little more academic background than the students they are teaching. (Figure 10.) Directors of degree, hospital, and practical nursing programs report that their single greatest need is qualified faculty.

In 1962, 862 schools of nursing reported 1,177 budgeted faculty vacancies, including 954 in diploma

Figure 10. Academic preparation of full-time professional nurse faculty members in schools of nursing, 1960



Source: Reference 1.

schools of nursing, 201 in degree programs, and 22 in associate degree programs. Another 10,000 faculty members will be needed to make possible expansion of enrollments, and to bring substandard programs up to the level required for national accreditation.

Nursing faculty must be recruited primarily from among nurses specially prepared for this purpose. In chapter VIII the Consultant Group recommends an expansion of Federal programs to help meet the costs of advanced training for nurses preparing to fill teaching positions.

Adequacy of operating funds for salaries and other expenses will also affect efforts to strengthen nursing school faculties. The problem of assuring schools of needed operating funds is discussed in a later section of this chapter.

Improvement, Expansion, and Extension of Educational Programs

Many of the newer teaching concepts and methods could be applied advantageously to nursing education. Assistance should be made available to schools of nursing now so that they can experiment with methods for improving the quality of education. Both teacher time and learning time would be reduced.

Many schools with imaginative leadership are experimenting with new and better ways of preparing students for modern nursing. Teaching machines and closed-circuit television are among the devices employed to promote better teaching and better use of teaching personnel. Further efforts to develop new programs and approaches to nursing education must be encouraged.

In general, to assure the best use of public funds, approval of schools by a national accreditation agency should be a condition of receiving these funds. However, we believe that assistance in program improvement should be made available to those nonaccredited schools which give evidence that such grants would improve teaching and help the school move toward accreditation.

To assist schools to improve, expand, and extend the education of nurses,

THE CONSULTANT GROUP
RECOMMENDS:

Federal funds should be made available, by means of project grants, to nursing education programs in universities, colleges, schools, and in public and nonprofit hospitals, institutions, and agencies—for the improvement, expansion, and extension of their educational programs and services. This would include experimentation with and demonstration of new and effective methods of teaching, the development and use of teaching aids and equipment, and, where indicated, the establishment of new programs.

Meeting Educational Costs

As is true in general for higher education, the cost of providing nursing education is substantially greater than the income received by the school from tuition and fees. For some schools such differences are large. At present, a few excellent schools of nursing are in danger of closing because they can no longer finance their programs.

Baccalaureate nursing education programs in particular are faced with serious financial problems because of the heavy costs of providing adequate clinical teaching. The net cost of diploma programs generally is borne by hospital patients.

The Consultant Group believes that assistance should be provided to help meet the schools' educational costs, and that such assistance should be tied to assistance to students. If we are to stimulate expansion in enrollment through loans, scholarships, and traineeships, as recommended in chapter VI, some support must be provided to the schools to help them meet the costs of education. Lack of such support would hinder attempts by the schools to expand their capacities. We believe that schools taking part in the Professional Nurse Traineeship Program should be reimbursed for a part of the cost of education of the trainees (chapter VIII). We believe that similar assistance is needed in meeting costs of educating students who receive scholarships or loans.

THE CONSULTANT GROUP RECOMMENDS:

Federal funds should be made available to reimburse schools of nursing for partial costs of education of students supported wholly or in part by Federal scholarships or loans.

Accreditation and Other Standards for Nursing Education

Over the past decade striking progress has been made in the development and application of accreditation and other standards for all types of nursing education. National and State organizations and State boards of nursing, in addition to the schools themselves, have cooperated in bringing about this progress.

In 1949 the National Committee for the Improvement of Nursing Services, sponsored by the Joint Board of the then six national nursing organizations, undertook a comprehensive review of schools of professional nursing. Its report, *Nursing Schools at the Mid-Century,* (2) set the basis for development of accreditation of schools of professional nursing.

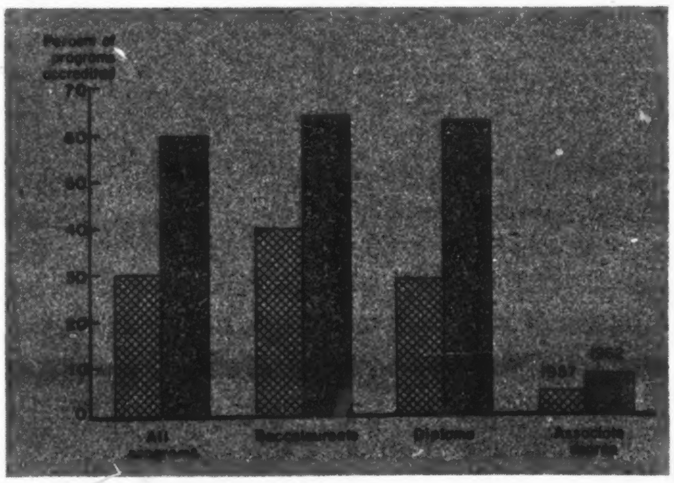
The development of an accreditation program was a significant step in the improvement of professional nurse education. The accreditation program provided a means whereby the schools themselves could voluntarily formulate and apply standards of excellence in education. Accredited schools attract better faculty and students, and are more successful in obtaining needed financial support.

. The National League for Nursing is the national accrediting agency which is recognized by the nursing profession, the National Commission on Accreditation, and State and regional accrediting agencies, for the accreditation of nursing education programs. Today, 60 percent of all professional nursing schools are nationally accredited (figure 11) and 73 percent of all students are enrolled in these accredited schools.

There are 737 programs of practical nurse education approved by State boards of nursing. Since 1941 the National Association for Practical Nurse Education and Service has promoted the development of sound training for practical nursing. The National League for Nursing has recently established a practical nurse department, which has developed a base for a strong program of accreditation and improvement of practical nurse education. The League's publication, *Education for Practical Nursing, 1960,* points the way toward further progress in this area (5).

A serious problem exists with respect to commercial schools which claim to prepare practical nurses through lectures, demonstration, or correspondence. Two States license such schools, which is emphasized in the schools' advertising and recruitment efforts. Even in these States, however, the schools do not meet the basic educational requirements for accreditation by State boards of nursing, and their graduates do

Figure 11. Programs of basic professional nursing accredited by the National League for Nursing, by type of program, 1957 and 1962



Source: References 3 and 4.

not qualify for admission to licensing examinations. The gross inadequacies of these schools and their threat to patient care should be brought to the attention of the Council of State Governments and State legislative leaders. The Consultant Group strongly urges that States prohibit the operation of practical nurse programs which are not approved by State boards of nursing.

Licensing is not mandatory for practitioners of nursing in all States. Twenty-five States have mandatory laws regulating the practice of professional nursing; and seven States, laws regulating the practice of practical nursing. In the interest of public safety and welfare, all who practice nursing should have demonstrated competence to give safe care. The Consultant Group strongly supports the position of the nursing profession that no person should be permitted to practice nursing for compensation without a license. It further supports the efforts of the nursing profession to secure the enactment of mandatory licensing laws regulating the practice of professional and practical nursing in all the States.

Chapter VIII.

Further Education of Professional Nurses

We have emphasized throughout this report the critical need for more nurses with advanced preparation. We have proposed as a goal that by 1970 there should be 120,000 nurses with academic degrees, including not less than 25,000 with graduate preparation.

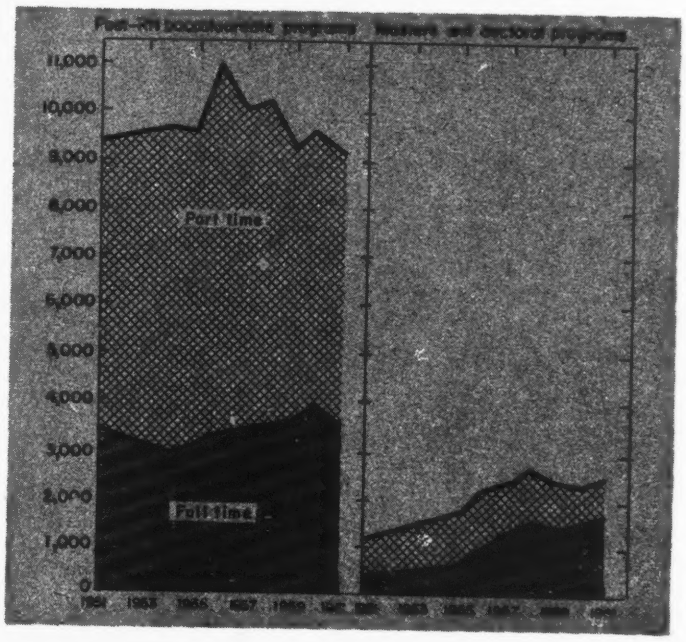
In the usual academic sense, advanced education is education leading to a master's or doctoral degree. But for the many nurses who are graduates of hospital and associate degree programs, the first step toward advanced education is acquiring the baccalaureate degree. And, for many nurses, there are specialized short courses which may or may not offer academic credit. In this chapter we are concerned with all of these types of further education.

To meet the Nation's requirements for nurses with graduate education, we must increase the annual output of nurses with master's degrees from the present 1,000 a year to 3,000 a year by 1970. To do this we must also increase the opportunities for graduate nurses who hold no degree to attend collegiate nursing schools to obtain baccalaureate degrees, so that the number of such graduates will increase from the present 2,500 to 5,000 a year by 1970.

We must also make it possible for more nurses to enroll in short courses to prepare themselves to carry their present responsibilities more adequately. And finally, we must make it possible for a greater proportion of nurses to attend school as full-time rather than part-time students.

In the past few years, largely because of the Federal nurse traineeship programs, there has been a heartening increase in full-time enrollment in graduate programs. The total number of students enrolled, however, is still far from adequate, and the proportion of part-time students remains far too high (figure 12). One of the main deterrents to advanced training of nurses is the cost of education, both to the student and to the school. This chapter is devoted to a description of present programs of financial support for advanced training and to a discussion of how these programs might be strengthened.

***Figure 12.* Professional nurses enrolled in baccalaureate, master's, and doctoral degree programs, 1951-1961**



Source: References 1 and 2.

Present Programs of Support for Advanced Training

At present, there are four significant Federal aid programs for advanced nursing education. Of these, the most comprehensive, and the one which could most readily be extended to serve broader purposes, is the Professional Nurse Traineeship Program administered by the Public Health Service. The other two programs administered by the Public Health Service are the Mental Health Training Grant Program and the Public Health Traineeship Program. The Office of Vocational Rehabilitation also has a traineeship program. In addition, there are a few programs of assistance under the auspices of private organizations.

Public Health Service Professional Nurse Traineeship Program

The Health Amendments Act of 1956 (3) established the Professional Nurse Traineeship Program to enable professional nurses to study full time in institutions of higher learning. The purpose of this program is to improve the quality of patient care by increasing the number of nurses with preparation for positions as teachers and administrators in nursing schools and as supervisors and administrators of nursing services in hospitals and public health agencies. The program originally provided traineeships only for full-time study for 1 academic year, but was extended in 1959 to include aid for professional nurses enrolled in short-term courses (4).

Full-time traineeships.—Traineeships for full-time study during an academic year are awarded through grants to approved institutions that offer training in teaching, administration, and supervision. The grants cover tuition and fees, and a stipend for the trainee. Trainees are selected by the institution in accordance with the intent of the traineeship program and the established admission policies of the school. This program, originally authorized for 3 years, was extended by Congress for another 5 years following the recommendation of an evaluation conference held in 1958. For the first year of operation, $2 million was authorized for these traineeships; this has gradually been increased to $6 million.

Since the program began, over 7,000 nurses have received traineeships. During the academic year 1960-61, 93 schools of nursing and of public health were participating in 37 States, the District of Columbia, and Puerto Rico.

The traineeship program has sharply increased the number of graduates from master's programs since 1956. It has increased full-time enrollments, decreased wasteful part-time enrollments, and stimulated hospital administrators and other employers of nurses to re-examine the educational preparation of their own personnel.

The program is designed to increase the supply of teachers, supervisors, and administrators. Most of the trainees are supported at the master's level of study. The program does not provide help to those who choose to remain in staff nurse positions in hospitals or other institutions.

Short-term courses.—The program of support for short-term courses, launched in February 1960, provides a means by which nurses in administrative, supervisory, and teaching positions who are unable to undertake longer periods of study can improve their skills in teaching, administration, or supervision. Educational institutions, health agencies, or other nonprofit organizations (except agencies of the Federal Government) may apply for traineeship grants to sponsor short-term courses for nurses. These grants cover tuition and an allowance for living expenses while the nurse is away from home. Since the inception of the program, a total of 200 grants have been made to institutions. These grants include funds to sponsor 300 courses with a total enrollment of approximately 13,000 nurses. The sum of $1 million has been earmarked for the fiscal year 1963 for grants for short-term training.

National Institute of Mental Health Training Grants

The National Institute of Mental Health Training Grant Program was established in 1947 (5). It has given support for certain costs incurred in the initiation, improvement, and expansion of educational programs in psychiatric nursing, and for nurse trainees to complete advanced study in this field.

Since the start of this program, more than 2,000 nurses have received trainee stipends, in amounts totalling over $6 million. In addition, over $5 million has been awarded to universities and colleges for graduate teaching; and in the past 5 years over $4 million has been provided for undergraduate teaching in collegiate schools of nursing (6).

This program has done much to meet the acute need for competent nurses in mental hospitals and other psychiatric services. In view of the great deficiencies still remaining in the care of the mentally ill, however, this program should be expanded in line with the recommendations of the Joint Commission on Mental Illness and Health.

Public Health Traineeship Program

To meet the needs for trained public health personnel, the Health Amendments Act of 1956 also authorized a Public Health Traineeship Program for graduate or specialized training in public health for physicians, engineers, nurses, and other professional health personnel. Included in this program are professional nurses who wish to prepare for beginning positions in public health nursing. They are eligible for assistance for not more than 1 year. Since the inception of the program, more than 1,500 nurses have received some training in public health. During 1960-61, 55 university and collegiate schools of nursing and schools of public health participated in this traineeship program.

Vocational Rehabilitation Program

Under the Vocational Rehabilitation Act of 1954 (Public Law 565, 83d Congress) the Office of Vocational Rehabilitation makes grants to universities and other training institutions to increase the supply of qualified rehabilitation personnel. From 1956 to 1963, grants have been made to graduate nursing programs for 177 nurse trainees.

Private Programs

Some funds for advanced education of nurses have been available through private sources. Until recently one of the principal sources was the National League for Nursing, which received $1.5 million for this purpose from the Commonwealth Fund. Almost 200 fellowships were granted under this program.

Twenty-nine colleges and universities in 18 States are now receiving funds for advanced education of professional nurses from the National Fund for Graduate Nursing Education, which was organized in 1960. In 1961, assistance provided to accredited graduate programs from this Fund totalled $100,000. While such amounts as these do not begin to meet the need, they indicate that private citizens recognize the great necessity for advanced education of nurses.

Need for Additional Traineeships

The several Public Health Service traineeship programs have increased enrollment in advanced training programs and have turned the tide from part-time to a significantly higher proportion of full-time enrollments. The majority of these trainees could not have enrolled without financial assistance. But if the goals outlined earlier in this report are to be met, additional traineeships are needed.

Schools participating in traineeship and scholarship programs report that more applicants would enroll if more funds were available. Not enough money has been available for the support of qualified applicants to master's programs. A still larger proportion of candidates for doctoral degrees have had to be turned down, despite the pressing need for nurses with such preparation.

It would be unrealistic to expect private sources to provide more than a small proportion of the needed additional traineeships.

THE CONSULTANT GROUP RECOMMENDS:

The present Federal programs of Professional Nurse Traineeships administered by the Public Health Service should be extended and gradually increased to at least double (within a 5-year period) the present number of full-time trainees. The duration of the traineeship should be extended to cover the period prescribed for the individual trainee to complete the program of study. In the administration of the program greater emphasis should be given to the support of candidates for the doctoral degree.

Support of Training in Clinical Fields

Large hospitals, in particular, need nurses with special training and competence to serve as clinical experts capable of giving intensive therapy in medical, surgical, obstetric, pediatric, and psychiatric nursing. Open-heart surgery, artificial kidneys, the exchange transfusions in newborn are among the most dramatic examples of new medical techniques which call for the assistance of specially prepared nurses for successful application. The development of clinical nurse specialists offers real opportunity to improve the quality of patient care. These nurses would be prepared to work closely with physicians, other nurses, and other specialists in planning and giving direct care.

There is ample evidence that many nurses who move away from clinical nursing would not do so if (as in the Public Health Service Clinical Center and in Veterans Administration hospitals) they could advance in pay and prestige while engaged in clinical nursing. To become nurse specialists in the various clinical fields, however, they need additional education. As yet little progress has been made in establishing programs of clinical specialization in nursing and attracting nurses to them. Except in the field of psychiatric nursing, no Federal funds are available for training of nurses who choose to specialize in direct patient care.

We consider it important to expand the Professional Nurse Traineeship Program to permit the training of clinical specialists. Such expansion should include both grants for full-time study toward completion of degree requirements and for short-term study.

THE CONSULTANT GROUP RECOMMENDS:

The Professional Nurse Traineeship Program should be expanded to provide for preparation of nursing specialists in clinical fields.

Aid for Short-Term Training

Grants for short-term training under the Professional Nurse Traineeship Program represent an important supplement to the program of grants for full-time training. These grants permit large numbers of nurses who are unable to undertake full-time traineeships to develop skills in teaching, administration, and supervision. Unfortunately, the amounts available for short-term training have not been adequate to meet the need for such funds.

THE CONSULTANT GROUP RECOMMENDS:

The present funds for short-term training in the Professional Nurse Traineeship Program should be doubled immediately and increased as needed thereafter; these increases should in no way reduce funds appropriated for full-time traineeships.

Post-RN Baccalaureate Preparation

The first bottleneck in reaching the 1970 goal for nurses with graduate training is the small number of nurses who graduate from basic baccalaureate programs. We have proposed, in the preceding chapter, that Federal funds be made available to help increase the number of graduates of these programs. But the length of training is such that it will be 1967 before students entering this year are graduated. At least in the short run, we must look to the further training of substantial numbers of graduates of diploma and associate degree programs.

In order that they may more effectively improve patient care in the hospital, home, and community, a considerable number of hospital- and junior college-trained nurses should also receive education through the baccalaureate level. A number of these nurses have the potential for such study.

The present traineeship program is not designed to meet this need. What is needed is assistance to graduates of diploma and associate degree programs, for a period not to exceed 2 years, so that they can complete requirements for a baccalaureate degree.

The Consultant Group does not wish to encourage future students to take 5 or 6 years to reach a goal which could be reached in 4 years by entering a baccalaureate program at the outset. To protect against this eventuality, we recommend a program in which aid is limited to those who entered a diploma or associate degree program prior to the inception of the assistance program recommended here. We also recommend that the program be continued for only 5 to 10 years.

The Consultant Group is aware that the limited capacities of the present baccalaureate programs would make it difficult for them to enroll at once the large numbers of students who should begin this training. We believe, however, that it should be possible to increase the number of students completing post-RN baccalaureate programs from the present 2,500 a year to 5,000 a year.

The Consultant Group Recommends:

Federal funds should be provided for traineeships for nurse graduates of diploma and associate degree programs for up to 2 years of full-time study toward a baccalaureate degree. Eligibility should be limited to nurses who entered diploma or associate degree programs prior to inception of this traineeship program. During the first year of the program, funds should be made available to about 1 percent of the diploma and associate degree graduates now practicing. The number of trainees should be increased in succeeding years.

Support for School Operating Costs

Schools enrolling traineeship students are frequently required to undertake rather extensive measures to expand faculty and secretarial service, expand clinical facilities, administer the program efficiently, publicize it, screen applicants, and keep records. Since tuition does not cover the full costs of instruction, the educational deficit of schools is increased by the acceptance of traineeship students. Many schools cannot increase enrollments unless some support for the added costs of education is provided.

No funds are allotted from the Professional Nurse Traineeship Program to assist the participating schools in meeting added instructional costs, although many other Federal programs for aid to graduate students (e.g., National Science Foundation Cooperative Graduate Fellowships, National Defense Education Act Graduate Fellowships, National Institutes of Health Predoctoral Fellowships, and National Institute of Mental Health Training Grants Program) provide such assistance.

The Consultant Group Recommends:

Federal funds should be provided to compensate the schools taking part in the Professional Nurse Traineeship Program to cover partial costs of education of the trainees.

Chapter IX.

More Service From Present Resources

In view of the short supply of nurses, it is essential that the best use be made of present resources. Two of the most effective means for immediately improving nursing services are to make better use of the nursing personnel now available and to upgrade the knowledge and skills of all nursing workers.

Improved Utilization

Intensive studies are needed to promote improved administrative methods, better use of management tools, effective utilization of personnel, and other creative approaches to obtaining better service in nursing. Such studies have had impressive value in industrial and business organizations. They have also proved their usefulness in nursing administration.

Administrative Methods

In general, health agencies have lagged far behind business in developing sound administrative practices. Only a few years ago, Block (*1*) estimated that more than 60 percent of all nongovernmental general hospitals in the United States did not maintain formal budgets—an administrative tool essential to efficient management.

Although a lag has occurred, considerable progress has been made. In the past few years nearly 100 hospitals, mainly large ones, have hired full-time management analysts or industrial engineers. The American Hospital Association is currently formulating new standards for hospital administrative practice. Data are being collected that will help in identifying the organizational factors directly affecting the use of nursing personnel.

Devices for forecasting patients' requirements for nursing services have received some attention in hospitals, schools of nursing, and the Federal services. Scales for measuring patients' attitudes toward adequacy of care, an important criterion of quality of nursing care, are being developed (*2*). Some hospitals have devised more efficient systems of ordering and delivering medications, and others are experimenting with automation in recording and storing patient data.

Several specific tools have been developed to improve management in public health agencies, among them a method of determining costs of nursing service and a method of measuring work-load units in terms of agency policies and practices (*3, 4*).

One reason for the reluctance of some health agencies to adopt scientific management methods has been the belief that such methods would tend to unduly routinize patient care. However, the adoption of an increased number of management aids—by relieving nursing personnel of certain repetitive, routine tasks, and by systematizing management—actually makes possible the provision of better patient care.

Staff Organization

There is great variation in staffing patterns in hospitals. Good nursing service is now being given in hospitals that have wide ranges of hours of care per patient day. At the same time inadequate service and inefficient use of nursing personnel are widespread. This is not limited to hospitals. In public health agencies, nursing homes, schools of nursing, school health programs, and doctors' offices, there is serious wastage of nursing skills.

In most voluntary hospitals, there is a dual system of authority; clinical decisions concerning patient care flow from the medical staff, and decisions relating to the administration of the hospital flow from the hospital administrator and his staff. The effect of this "separation of power" is detrimental to good nursing service, since nurses receive their direction from two different and often inadequately coordinated sources. In many other health agencies the clinical and administrative lines of authority are kept rigidly independent and uncoordinated.

Many agencies lack adequate supportive personnel in departments other than nursing. Indeed, many do not employ certain specialized nonnursing personnel because of the "fatal availability" of nurses. In hospitals nurses are on duty 24 hours a day, 7 days a week. Tasks that should be assigned to other departments too often fall into the lap of the nursing department, particularly on evening and night shifts and on weekends.

Recently, attempts to discover more rational ways of organizing and staffing nursing services have gained momentum. One promising method is the "team approach" which is used in a number of hospitals. The nursing team consists of a group of nursing personnel with various levels of skills and training—headed by a professional nurse who should be a graduate of a baccalaureate program. Each team is responsible for providing comprehensive nursing care for a given number of patients. All nonnursing duties are assigned to other personnel. The team leader determines the total nursing needs—physical, emotional, and rehabilitative—of each patient assigned to the team; gives that care requiring the highest level of skills; and assigns, directs, and coordinates the nursing care activities of other members of the team (5).

Other approaches to the improvement of the organization of nursing services are also receiving attention.

One system which has been under intensive study in recent years and which holds promise as a means of increasing both the effectiveness of nurse utilization and total organizational effectiveness is called "progressive patient care." This has been described as:

> the organization of facilities, services, and staff around the medical and nursing needs of the patient. Its objective is that of tailoring services to the needs of the individual patient—whether in the hospital or in the home. Patients are grouped according to their degree of illness and their need for care (beginning with intensive care units for the critically and seriously ill patients). The staff serving each group of patients is selected and trained and the facilities are organized to provide the kind of service needed by the group. (6).

Activity Studies

As a part of the development of better patterns of utilization, periodic evaluations of the activities of the nursing staff are of great value. A method for doing this has been developed by the Public Health Service's Division of Nursing (7). With guidance from consultants of that Division, some 200 hospitals have studied the activities of their nursing personnel—including staff, supervisory, and administrative personnel—to find out how reassignment of duties might help increase the amount and proportion of time devoted to patient care.

Such studies in 34 hospitals have shown that one-fourth to two-fifths of the time of the nursing staff in patient units was spent on activities not at their own level of nursing activity. Clerical and other completely nonnursing activity accounted for one-eighth to one-third of the nurses' time (figure 13).

Other methods of studying the utilization of nursing services have been developed. The Veterans Administration has developed a study method which can be used by other hospitals (9). The American Hospital Association and the National League for Nursing have produced materials and held workshops to show how the use of nurses can be studied and improved.

Such studies have made possible significant improvements in the use of nursing skills. Since many institutions do not have on their own staffs people who are expert in planning and directing activity studies, consultation from the Public Health Service's Division of Nursing has been most valuable in helping hospital management and nursing personnel engage in such endeavors.

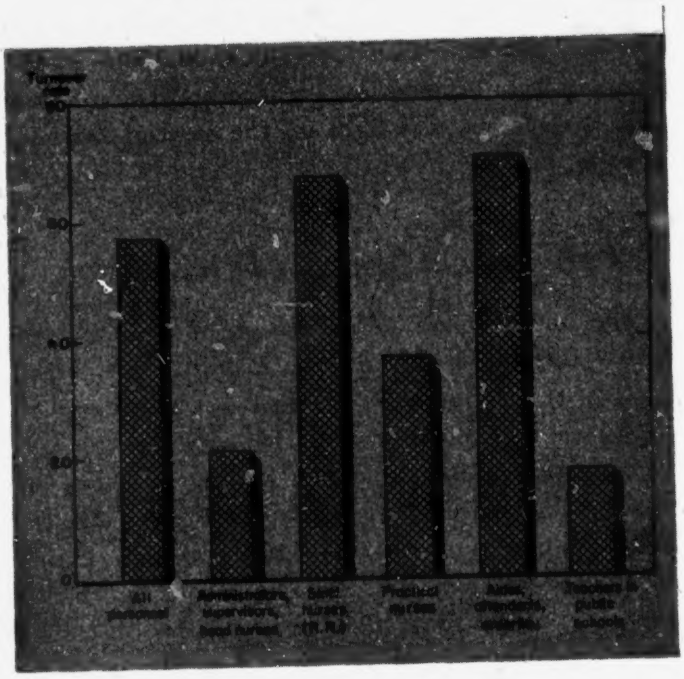
Incentives for Job Stability

A well-administered organization is characterized by high productivity, low turnover, and good employee morale. The most recent data available on a large group of hospitals indicate that turnover among nursing personnel is nearly 60 percent per year (figure 14). For staff nurses the rate is even higher—67 percent. Turnover among female teachers in public schools is only 18 percent.

High turnover of nursing personnel disrupts continuity of services to patients and impairs the effective utilization of personnel. Moreover, it adds considerably to the cost of care.

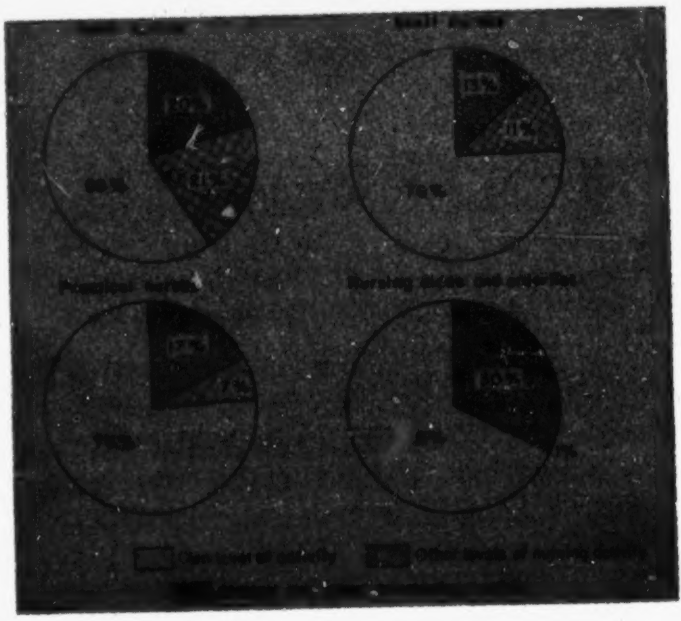
Because of the absence of definitive data, the Consultant Group can only speculate on the causes of high turnover of nursing personnel. Considering the physical and mental demands of their work and the high level of education required, nurses' salaries are low. Teachers in urban public schools, with turnover rates one-fourth that of staff nurses, earn a median annual salary of $5,500 compared with the $3,900 per year for hospital staff nurses.

Figure 14. Average annual turnover rate among nursing personnel in 51 general hospitals, 1955, and among teachers in public schools, 1957-58



Source: References 10 and 11.

Figure 13. Percent of time spent by nursing personnel at their own and other levels of activity, 34 hospitals, 1956



Source: Reference 8.

The periodic raises provided for teachers for length of service are considerably higher than those for nurses. In a city such as New York, a teacher after 14 years of service might earn almost twice as much as a nurse with the same tenure. Moreover, fringe benefits for nurses—vacation time, sickness benefits, and retirement provisions—do not compare favorably with those of other professional groups.

Further, in the vast majority of hospitals and other health agencies there is no established way for correcting unsatisfactory employment conditions. The American Nurses' Association established its economic security program in 1946 based on the democratic right of the individual to participate in decisions that affect him. During the development of this program there has been increasing recognition of its essential importance in maintaining high standards of professional practice.

A specific exemption in the National Labor Relations Act relieves nonprofit and State and local governmental hospitals from the obligation of conferring and reaching agreement with employees on the terms and conditions of their employment. There is imperative need for improved employee-employer relations through all available means.

Because of the detrimental effects of high turnover on effective use of nursing resources, the Consultant Group believes that it is urgent that nursing organizations, related national organizations, and university research centers investigate the area of turnover in order to shed light on the roots of this most pressing problem.

Federal Role in Improved Utilization

The improvement of utilization of personnel and management in health agencies is primarily a responsibility of the agencies themselves. However, the multitude and diversity of health agencies, the rapid changes that are occurring in health programs, and the great complexities of nursing service organization and administration are such that the agencies cannot adequately perform this function alone. We believe that the necessary studies of a variety of staffing patterns, experimentation with new methods, and dissemination and demonstration of newly developed techniques cannot be undertaken on the scale required without increased assistance from the Federal Government.

The Consultant Group believes that many more hospitals, nursing homes, and other health agencies would engage in self-study if they could obtain adequate financial help and the assistance of qualified consultants. Federal funds are not now available specifically for project grants in nursing for demonstrations, experimentation, and training in methods of improving the utilization of nursing personnel.

The Public Health Service program of consultation in self-studies of hospital nursing activities has proved valuable—and it requires only a modest outlay of funds. Nursing homes, schools of nursing, and public health agencies would find adaptations of these studies valuable. A guide for making such studies is available, but few agencies have been able to make studies without assistance. Because of its small staff, the Public Health Service Division of Nursing has been able to meet only a limited number of requests for consultation.

THE CONSULTANT GROUP RECOMMENDS:

Federal funds should be made available to improve the utilization of nursing service personnel by providing project grants for demonstrations, for experimentation with new and improved methods, and for training in use of these methods. State and other public and nonprofit institutions, organizations, and agencies should be eligible for these grants.

Additional funds should be made available to expand those Public Health Service programs which provide consultation and other services to hospitals and other health institutions and agencies to improve the quality and quantity of patient care through better utilization of nursing service personnel and other appropriate methods.

Improving Nursing Skills During Employment

In nursing, as in other fields, rapid changes in science and technology require constant education of staff, as well as good orientation of new employees. Such staff education is needed by all practitioners regardless of the completeness or excellence of their original training.

There are three important channels of staff education and training: *inservice education* built upon the previous education of the nurse; *on-the-job training* for nursing aides who receive their entire training during employment, and *continuing education* for nurses, which makes use of educational opportunities outside the employing institution or agency.

Inservice Education

New nursing techniques are needed for new therapies and new concepts of care. The development of new drugs, the growing appreciation of psychological aspects of care, the increased emphasis on rehabilitation and on new biochemical and biophysical procedures are but a few of the factors changing nursing service.

At the staff nurse level, inservice education gives both professional and practical nurses opportunity to learn new techniques. Head nurses in hospitals, and supervisors in hospitals and public health agencies must also keep up with advances in their fields. The administrator of nursing services in a hospital can profitably participate in the executive development program of the hospital.

A high level of competence, educational and administrative, by the full- or part-time nurse director of inservice education is needed to plan and carry on the program in hospitals and health agencies. The education must be geared to meet a great variety of needs of each member of the nursing staff. It requires an understanding of the motives, attitudes, and intellectual capacity of the nurses who are to participate in it, as well as of the subject matter to be taught.

Physicians should participate in the teaching of nurses at work in hospitals. If the hospital is also training medical students and interns, some phases of the educational programs for the two groups—physicians and nurses—can be shared to mutual advantage. Areas in which such sharing is of particular value include community resources for followup care of patients, family participation in care of patients at home, and psychological problems of patients and families.

On-the-Job Training

Nursing aides in hospitals and nursing homes receive their entire training during the time of their employment through on-the-job training. A sound program of instruction is concentrated during the first weeks of employment and continues throughout employment in a less concentrated fashion. It must be carefully planned in relation to the functions that aides are to perform. It must include detailed supervision of their first practice in the hospital or nursing home units, and continued supervision throughout employment.

The Public Health Service, the American Hospital Association, and the National League for Nursing have cooperated in a program aimed at giving on-the-job training to large numbers of aides in general hospitals. A manual for aides and another for instructors were prepared, and an extensive program of training instructors was carried out. This reached a few hundred instructors and several thousand aides. But there are nearly 300,000 aides in general hospitals, and new aides are employed every day.

The Public Health Service and the American Association of Nursing Homes have cooperated on a similar program for aides in nursing homes. While it was successful, thousands of aides still lack acceptable training.

Improved on-the-job training of psychiatric aides and attendants in mental hospitals has been strongly recommended by the Joint Commission on Mental Illness and Health as a means of improving the care of mental patients.

Continuing Education

Continuing education comprises educational opportunities outside the institution or agency, usually planned by a nursing organization, a university, a hospital, or a health department. Workshops, institutes, and seminars, when skillfully conducted, elicit enthusiastic participation. Enrollment in such programs is almost always over-subscribed, testifying to the eagerness of nurses to go beyond their present level of learning. The list of continuing education programs offered each year is imposing, but compared with the demands among a half million professional nurses and a quarter million practical nurses, it falls far short of serving all who need and want this training.

The Western Interstate Commission on Higher Education has conducted a series of seminars for nurses in middle management positions in general and mental hospitals, industrial health units, and public health agencies. The seminars focused on human relations and how to turn them to good effect in achieving program goals.

The Southern Regional Education Board and the New England Board of Higher Education are also developing regional programs of continuing education. The latter is currently sponsoring a 2-year continuing program which will provide a short-term course on management and teaching skills in the improvement of patient care in the New England States.

The National League for Nursing, the American Nurses' Association, State nursing organizations, the American Hospital Association and other organizations have all provided and participated in regional and State conferences. Much must still be done along these lines to improve and extend care given by nursing personnel.

Federal Role in Staff Education

Inservice, on-the-job, and continuing education programs should be primarily supported by the health institutions themselves, but Federal aid will be needed to stimulate the development of those programs which can improve utilization of nursing services and make possible better patient care. Experience has shown that when health institutions are able to learn the value of new programs through demonstration, these programs will be accepted and supported by the institutions.

THE CONSULTANT GROUP RECOMMENDS:

Federal funds should be made available by means of project grants to nursing schools and other appropriate agencies, as determined by the Surgeon General of the Public Health Service, for strengthening inservice education, on-the-job training, and continuing education to help nursing service personnel improve their nursing knowledge and skills.

Chapter X.

Research in Nursing

One of the significant developments in the 20th century has been the growing recognition of research as an obligation of society. Early research efforts were supported largely through personal and foundation giving but today the largest sums for research come from industry and government. The increasingly widespread participation in research support among the various segments of the economy reflects a growing appreciation of the necessity for supporting a search for knowledge as a basis for social and economic well-being.

Nursing has shared in the growth of research. From 1950 to 1955 the American Nurses' Association invested $400,000 in support of studies of nursing. These beginnings culminated in the creation of the American Nurses' Foundation— the research affiliate of the Association. The Foundation, in addition to conducting studies itself, has awarded $124,000 in grants for research to nonprofit institutions such as universities and hospitals, and to public health agencies. The Foundation is now trying to raise $1 million from nursing and the general public to support its program.

Other foundations—among them W. K. Kellogg, Avalon, Russell Sage, and Rockefeller—have provided about $1.5 million for selected areas of investigation in nursing. Another nongovernmental nursing research support program, which has now been terminated, was that of the National League for Nursing which, with Commonwealth Fund money, in five years awarded $1.5 million in grants for advanced study to nurses preparing for careers in education and research.

The Public Health Service has had an intramural program of nursing research since 1950, although sporadic studies of nursing were done before that time. Nursing research programs were also established in the Veterans Administration and the Army Medical Corps in the early 1950's.

The Public Health Service extramural program of research grants and fellowships in nursing began in 1955. The program has awarded a total of about $8 million in grants and fellowships for research and research training. This substantial aid has greatly stimulated nursing research throughout the country, one indication being a continuing increase in the number of institutions receiving grants. The Children's Bureau administers a small research grant program, as does the Office of Vocational Rehabilitation.

In the beginning, most nursing research was directed by social scientists and concerned with nurses, their education, and such subjects as their attitudes toward nursing and their jobs. As more nurses have received advanced preparation in the physical and biological sciences, as well as the social sciences, more investigations are directed by nurses and deal with nursing care problems. The trend toward more patient-centered studies is noticeable in current investigations of such problems as nursing care of patients with myocardial infarction and nursing care to alleviate pain.

Past studies of nursing service in relation to patient care have made important contributions. But with the rapid evolution of the biological sciences, the greater exactitude of clinical medical investigations, and the changing patterns of medical care organization, the need for nursing research has outstripped the resources available for such studies.

In research, as in education and in service, it is important that nursing be seen in relation to total health needs and total health services. A multidisciplinary approach in research, with patients as the focus of attention, is one of the most important ways to achieve this end. Unfortunately the multidisciplinary approach has not yet been as widely accepted as it should be. To demonstrate its value, one or more centers should be established for the express purpose of conducting multidisciplinary research. The initiation of such centers could well be undertaken by the Public Health Service and by university medical centers.

Advanced Training for Nursing Research

One of the first requirements for the development of research is to provide for a larger number of nurses with advanced training in the biological and social sciences on which the practice of nursing rests. It has been suggested that about half of the nurses who receive doctoral degrees might enter nursing research. In addition there must be a much larger group of nurses equipped to participate in the investigations by conducting observations of patients, and performing other highly technical and investigative tasks.

To provide the number of nurses needed to carry on research, nurse educators must recognize the talented student who has the capability to perform with technical and scientific skill. Scientists must be alert to nurses' capacities to contribute to investigations. Finally, adequate support must be available to insure that nurses capable of undertaking such advanced training will be able to complete their studies.

When the Public Health Service established the nursing research program in 1955, the need for nurses trained in research methods was recognized, and $125,000 was earmarked for special predoctoral fellowships. By 1961, funds for this program had doubled. Since the inception of the program, the Public Health Service has supported 137 fellows. However, all told, there are only about 300 nurses in the United States who have doctoral degrees, and only a very small percentage of these are engaged in research.

The Public Health Service fellowship program has demonstrated its value in assuring support for advanced training in nursing research. The present number of fellowships should be increased to make sure that additional qualified nurses will be able to prepare for research careers by graduate study.

THE CONSULTANT GROUP RECOMMENDS:

Funds for the Nursing Research Fellowship Program of the Public Health Service should be increased to provide immediately for 100 new full-time research fellowships. This number should be increased as additional qualified nurses apply.

Public Health Service Intramural Research Program

The Public Health Service intramural program of research in nursing has developed methods for studying better utilization of nursing personnel, nursing resources, patient satisfaction, personnel turnover, and the effect of particular nursing procedures on patients. Some of these methods—for example, those for studying activities of nursing personnel—have proved so valuable that they have already received widespread application. Others promise to have similar usefulness.

The Consultant Group feels this program has made a major contribution to the development of research in nursing in the United States and that it should be continued and expanded.

THE CONSULTANT GROUP RECOMMENDS:

Funds for the Public Health Service intramural program of research in nursing should be doubled, with future increases as the need arises.

Public Health Service Extramural Research Program

The potential contributions of nursing research to better patient care are so impressive that universities, hospitals, and other health agencies should receive all possible encouragement to conduct appropriate studies. The nursing profession, foundations, and official agencies that have pioneered in the support of research are to be commended.

The Public Health Service has promoted broad participation in nursing research both through the awarding of research grants and through the provision of consultative services. But the amount of help made available has been small in relation to the need for such stimulation and support.

In nursing, as in most disciplines and professional fields, graduate schools frequently lead the research effort. Potentialities for nursing research are particularly great in universities where extensive research is already carried on in health fields and where opportunities exist for interdisciplinary cooperation in research and research training. In recent years the Public Health Service has promoted medical and related research at certain key institutions through research development grants to these institutions. Graduate nursing programs, however, have not been eligible for these grants.

THE CONSULTANT GROUP RECOMMENDS:

Funds for the Public Health Service program of extramural research grants in nursing should be substantially increased. The increase should provide for a larger number of research grants and support more varied types of investigations. More consultation on nursing research methodology should be provided by the Public Health Service, and schools of nursing should be eligible for research development grants.

Chapter XI.

Summary and Recommendations

Major changes in the practice and concepts of medicine are extending the scope of health services. Hospitals are giving increasingly complex care to a greater number of patients. Skilled nursing care homes are growing in number. Communities are developing more and better outpatient services and home-care programs for the mentally as well as the physically ill. Medical science confers more benefits than ever before and new achievements come at a rapid rate.

At the same time, sociological and economic trends are magnifying demands for service. Between 1960 and 1970 the population of the United States will increase at a rate equivalent to adding each year a city the size of Chicago, with the proportion of older people and babies on the rise. The people of the United States are becoming better educated and more sophisticated about health and medical care, and are seeking in various ways to lessen the financial barriers to adequate health services, including nursing care.

The demands of the future will soar. Yet the United States does not now have enough adequately trained nurses to meet today's most pressing needs for care. With 550,000 professional nurses in practice in 1962, most institutions and areas had serious shortages of staff. In many places the quality of care has suffered as inadequately prepared nurses and inadequately trained auxiliary personnel have had to provide care beyond their capacity. In 1962 the total number of practical nurses and auxiliary workers employed—225,000 practical nurses and over 400,000 aides, orderlies, and attendants—exceeded the total number of professional nurses.

Although responsibilities of professional nurses have constantly increased as the complexity of medical care has grown, not enough nurses receive the strong educational background necessary for positions of leadership. Most professional nurses are still being prepared in hospital diploma programs. Too few nurses come from the baccalaureate programs—4-year collegiate programs offering stronger foundations in science and a broader perspective of the liberal arts. Even fewer receive graduate education for teaching, supervisory, administrative, and specialized clinical positions.

Looking ahead, nursing personnel should contribute to the health services of the Nation in a way now possible in only a few institutions and areas. More nurses will be needed to engage in the highly skilled care of hospital patients and in the administration and supervision of hospital nursing services. The mentally ill inside and outside hospitals should receive care from specially prepared nurses. Strengthened nursing home and school and public health services will require more well-trained nurses. More nurse teachers must help educate future generations of nurses.

To give the people of the United States safe, therapeutically effective, and efficient nursing service, some 850,000 professional nurses and 350,000 practical nurses would be needed by 1970. But to meet this need would require a total of 100,000 graduates of basic professional nursing schools a year beginning in 1966—a tripling of the present output of a little over 30,000. In view of limited school capacity and recruitment problems, a realistic goal would be to increase the number of graduates to 53,000 a year by 1969. With this increase there should be a total of some 680,000 nurses in 1970.

There must be a major expansion of both diploma and collegiate programs to increase the number of professional nurse graduates from 30,000 to 53,000. Large financial investment will be required for this purpose. Special emphasis must be given to the basic baccalaureate degree programs. These must double their graduates, from the 1960 level of 4,000 to a total of at least 8,000 in 1970. This expansion will probably require the establishment of 30 or more new collegiate nursing schools.

Many more well-qualified candidates must be attracted into nursing, particularly from among the college-bound. Opportunities in nursing must be more vigorously publicized by schools; communities; State, regional, and national organizations; and government agencies. We must increase the recruitment pool by greater emphasis on minority groups, men, and older and married women. Programs of financial aid to students will be essential to attract young people who cannot now afford education beyond high school. Finally, to attract and hold the needed nursing personnel, salaries and economic benefits for nursing must come nearer to equalling those of other occupations requiring comparable preparation, ability, and responsibility.

Advanced preparation of nurses for leadership and teaching positions must receive greater emphasis and support. This will require expansion and development of new programs for graduate education. Additional short-term training programs will also be needed. More graduates of diploma programs must be given an opportunity to return to school to gain more scientific knowledge.

We must take a more critical look at patterns of nursing education. A broad study of the whole complex of currently unrelated educational programs for nursing should be undertaken to determine how nursing schools might better keep pace with technological and scientific advances. Such a study would require a 5- to 10-year effort. It should have broad professional participation, under the leadership of the nursing profession.

For the immediate future, present nursing education programs must be more strongly supported, expanded, and improved. This will require thorough regional, State, and community appraisal of nursing education needs. It will demand construction of costly teaching facilities, as well as more and better-prepared faculty and the development of new educational methods.

Maximum service must be obtained from existing nursing personnel. To make the best use of nursing skills now available, there must be substantial improvement in hospital and nursing administration and in nursing staff assignments. There must be careful and widespread studies of the present utilization of personnel, and more experimentation with nursing staffing patterns.

Continuous staff education is equally necessary for high quality nursing service. This must include in-service education for professional and practical nurses, on-the-job training for nursing aides, and continuing education outside the employing institution. These staff education programs should be primarily supported by the health institutions themselves, but aid is needed to promote their development.

Nursing research must be stimulated. Research in nursing has just begun to yield the body of knowledge needed as a basis for the improvement of patient care. Support is urgently needed for research in relatively untouched areas. Much greater support is required for patient-oriented studies in line with changing patterns of patient care.

No one group in the Nation will be able to accomplish all of these purposes. The nursing profession, other health professions, community groups, foundations, private philanthropists, colleges and universities, and hospitals are among the groups which will need to cooperate in the effort to meet nursing service requirements in years to come. Where these groups lack the necessary financial and technical resources to meet minimum goals, governments at all levels must provide appropriate support. A share of the responsibility must be borne by the Federal Government.

In accordance with the Surgeon General's charge to the Consultant Group, the specific recommendations of this report are directed to the areas in which Federal assistance can be of particular and immediate significance in increasing and improving nursing personnel and nursing service. Those recommendations, which have been discussed in some detail in chapters VI to X, are repeated as the conclusion of this chapter.

We wish first, however, to emphasize our urgent recommendation to the nursing profession:

Study of Nursing Education

A study should be made of the present system of nursing education in relation to the responsibilities and skill levels required for high-quality patient care. This study should be started immediately so that nursing education programs can benefit as soon as pos-

sible from the findings. Funds for such a study should be obtained from private and government sources. (page 34)

The Consultant Group recommends to the Surgeon General of the Public Health Service that the Federal Government substantially expand and add to its present program of support and assistance to nursing and nursing education. Specifically:

Stimulation of Recruitment to Schools of Nursing

The Public Health Service should expand its efforts and give financial and other assistance to State, regional, and national agencies for recruitment programs for nursing and other health personnel. (page 28)

Federal funds should be made available to schools of professional nursing and of practical nursing approved by agencies designated by the Surgeon General of the Public Health Service, to enable them to offer low-cost loans, cancelable in part by a specified number of years of full-time employment in nursing, to eligible or enrolled students who show reasonable promise of success in nursing and who can provide evidence of financial need. (page 30)

Federal funds should be made available to provide scholarships to attract a greater number of highly qualified high school graduates who need financial assistance into collegiate programs of nursing which are nationally approved by agencies designated by the Surgeon General of the Public Health Service. (page 31)

Assistance to Schools of Nursing to Expand and Improve the Quality of Educational Programs

Federal funds should be provided to help meet the construction needs for educational facilities for schools of nursing. (page 35)

Federal funds should be made available for grants to institutions, regional, State and other public and nonprofit organizations or agencies for planning and determining the need for new nursing school facilities or new, expanded, or improved programs of nursing education. (page 36)

Federal funds for planning grants for construction of nursing education facilities should be made available to universities, colleges, and schools of professional nursing which are ready to expand or establish new schools of nursing. (page 36)

Steps should be taken by the Public Health Service and the nursing profession to prepare prototypes of school facilities most conducive to efficient and effective teaching of nursing. (page 36)

Federal funds should be made available, by means of project grants, to nursing education programs in universities, colleges, schools, and in public and nonprofit hospitals, institutions, and agencies—for the improvement, expansion, and extension of their educational programs and services. This would include experimentation with and demonstration of new and effective methods of teaching, the development and use of teaching aids and equipment, and, where indicated, the establishment of new programs. (page 37)

Federal funds should be made available to reimburse schools of nursing for partial costs of education of students supported wholly or in part by Federal scholarships or loans. (page 38)

Assistance to Professional Nurses for Advanced Training

The present Federal programs of Professional Nurse Traineeships administered by the Public Health Service should be extended and gradually increased to at least double (within a 5-year period) the present number of full-time trainees. The duration of the traineeship should be extended to cover the period prescribed for the individual trainee to complete the program of study. In the administration of the program greater emphasis should be given to the support of candidates for the doctoral degree. (page 42)

The Professional Nurse Traineeship Program should be expanded to provide for preparation of nursing specialists in clinical fields. (page 43)

The present funds for short-term training in the Professional Nurse Traineeship Program should be doubled immediately and increased as needed thereafter; these increases should in no way reduce funds appropriated for full-time traineeships. (page 43)

Federal funds should be provided for traineeships for nurse graduates of diploma and associate degree programs for up to 2 years of full-time study toward a baccalaureate degree. Eligibility should be limited to nurses who entered diploma or associate degree programs prior to inception of this traineeship program. During the first year of the program, funds should be made available to about 1 percent of the diploma and associate degree graduates now practicing. The number of trainees should be increased in succeeding years. (page 44)

Federal funds should be provided to compensate the schools taking part in the Professional Nurse Traineeship Program to cover partial costs of education of the trainees. (page 44)

Assistance to Hospitals and Health Agencies to Improve the Utilization and Training of Nursing Personnel

Federal funds should be made available to improve the utilization of nursing service personnel by providing project grants for demonstrations, for experimentation with new and improved methods, and for training in use of these methods. State and other public and nonprofit institutions, organizations, and agencies should be eligible for these grants. (page 48)

Additional funds should be made available to expand those Public Health Service programs which provide consultation and other services to hospitals and other health institutions and agencies to improve the quality and quantity of patient care through better utilization of nursing service personnel and other appropriate methods. (page 48)

Federal funds should be made available by means of project grants to nursing schools and other appropriate agencies, as determined by the Surgeon General of the Public Health Service, for strengthening inservice education, on-the-job training, and continuing education to help nursing service personnel improve their nursing knowledge and skills. (page 50)

Increased Support for Research

Funds for the Nursing Research Fellowship Program of the Public Health Service should be increased to provide immediately for 100 new full-time research fellowships. This number should be increased as additional qualified nurses apply. (page 52)

Funds for the Public Health Service intramural program of research in nursing should be doubled, with future increases as the need arises. (page 52)

Funds for the Public Health Service program of extramural research grants in nursing should be substantially increased. The increase should provide for a larger number of research grants and support more varied types of investigations. More consultation on nursing research methodology should be provided by the Public Health Service, and schools of nursing should be eligible for research development grants. (page 53)

Appendix Tables

***Appendix table* 1. Nursing personnel employed in the United States, 1950 and 1962**

Type of personnel	1950	1962
Total	733,000	1,185,000
Professional nurses	375,000	550,000
Practical nurses	137,000	225,000
Aides, orderlies, and attendants	221,000	410,000

Source: Tibbitts, Helen G., and Levine, Eugene. Health Manpower Source Book; Section 2, Nursing Personnel. Public Health Service Pub. No. 263. Washington, U.S. Government Printing Office, 1953. 88 pp.

Interagency Conference on Nursing Statistics: American Hospital Association, American Nurses' Association, National League for Nursing, and Public Health Service.

Unpublished data from the U.S. Census of Population.

Estimated by the Public Health Service.

American Medical Association, Council on Medical Education and Hospitals; Hospital Service in the United States, 1950 Census of Hospitals. Journal American Medical Association 146: 109-201, May 12, 1951.

Unpublished data from the American Hospital Association.

Appendix table 2. Professional and practical nurses in practice in the United States, by geographic division and State

Geographic division and State	Professional nurses, 1957		Practical nurses, 1960	
	Number	Rate per 100,000 population	Number	Rate per 100,000 population
United States	464,138	271	205,974	115
New England	41,267	416	18,406	175
Connecticut	13,762	599	2,800	110
Maine	3,059	324	1,548	160
Massachusetts	16,801	345	11,339	220
New Hampshire	2,922	507	922	152
Rhode Island	3,268	383	1,118	130
Vermont	1,455	386	679	174
Middle Atlantic	120,412	368	33,186	97
New Jersey	16,771	299	4,870	80
New York	63,996	395	15,191	91
Pennsylvania	39,645	362	13,125	116
South Atlantic	57,217	232	26,155	101
Delaware	1,587	378	471	106
District of Columbia	3,734	481	1,749	229
Florida	11,766	277	5,046	102
Georgia	6,360	166	4,613	117
Maryland	7,538	262	2,847	92
North Carolina	9,392	211	3,967	87
Puerto Rico	[1]	[1]	[1]	[1]
South Carolina	4,342	186	1,610	68
Virginia	8,239	216	3,960	100
West Virginia	4,259	226	1,892	102
East South Central	16,863	144	13,365	111
Alabama	4,482	141	3,617	111
Kentucky	4,181	142	2,775	91
Mississippi	3,135	147	2,592	119
Tennessee	5,065	146	4,381	123
West South Central	25,975	159	22,755	134
Arkansas	2,200	123	2,010	113
Louisiana	6,154	197	3,521	108
Oklahoma	3,360	148	3,838	165
Texas	14,261	156	13,386	140
East North Central	87,690	253	39,318	109
Illinois	24,024	251	8,440	84
Indiana	10,593	233	3,896	84
Michigan	17,572	233	11,864	152
Ohio	24,137	260	11,615	120
Wisconsin	11,364	299	3,503	89

Appendix table 2. Professional and practical nurses in practice in the United States, by geographic division and State (cont.)

Geographic division and State	Professional nurses, 1957		Practical nurses, 1960	
	Number	Rate per 100,000 population	Number	Rate per 100,000 population
West North Central	42,352	280	18,222	118
Iowa	8,034	293	2,863	104
Kansas	5,833	275	2,527	116
Minnesota	11,906	359	3,948	116
Missouri	8,841	208	5,862	136
Nebraska	4,289	308	1,895	134
North Dakota	1,890	300	522	83
South Dakota	1,559	229	605	89
Mountain	18,755	293	7,625	111
Arizona	3,429	308	1,205	93
Colorado	6,071	359	2,603	148
Idaho	1,498	234	1,017	152
Montana	2,314	350	742	110
Nevada	656	255	242	85
New Mexico	1,962	226	770	81
Utah	1,841	220	801	90
Wyoming	984	305	245	74
Pacific	53,607	275	26,942	127
Alaska	357	157	118	52
California	37,469	263	18,619	118
Hawaii	1,893	324	952	150
Oregon	5,360	309	2,656	150
Washington	8,528	311	4,597	161

[1] Data not available.

Source: Unpublished data supplied by American Nurses' Association. U. S. Bureau of the Census. U. S. Census of Population: 1960. Detailed Characteristics. Final Report PC(1)2D–52D. Washington, U. S. Government Printing Office, 1962.

Appendix table 3. Estimated number of professional nurses employed in various fields, by academic degree, 1962

Field of service	Total	Academic degree		
		Master's or above	Baccalaureate	Diploma or assoc. degree
	Number of professional nurses			
All fields	550,000	11,500	43,500	495,000
Hospitals and related institutions	367,250	3,200	21,050	343,000
Directors, assistant directors, and inservice	18,000	2,000	4,200	11,800
Supervisors and assistants	34,200	800	4,600	28,800
Head nurses and assistants	58,000	200	3,700	54,100
Staff nurses, anesthetists, and other	257,050	200	8,550	248,300
Public health (including school)	34,700	2,100	10,500	22,100
Administrators and supervisors	3,800	1,200	1,600	1,000
Staff nurses	30,900	900	8,900	21,100
Nursing education	19,550	6,050	8,800	4,700
Occupational health	17,000	50	700	16,250
Doctors' offices, private practice, and other	111,500	100	2,450	108,950
	Percent distribution			
All fields	100.0	2.1	7.9	90.0
Hospitals and related institutions	100.0	.9	5.7	93.4
Directors, assistant directors, and inservice	100.0	11.1	23.3	65.6
Supervisors and assistants	100.0	2.3	13.5	84.2
Head nurses and assistants	100.0	.3	6.4	93.3
Staff nurses, anesthetists, and other	100.0	.1	3.3	96.6
Public health (including school)	100.0	6.0	30.3	63.7
Administrators and supervisors	100.0	31.6	42.1	26.3
Staff nurses	100.0	2.9	28.8	68.3
Nursing education	100.0	31.0	45.0	24.0
Occupational health	100.0	.3	4.1	95.6
Doctors' office, private practice, and other	100.0	.1	2.2	97.7

Source: Total number of nurses by field estimated by Interagency Conference on Nursing Statistics: American Hospital Association, American Nurses' Association, National League for Nursing, and Public Health Service, January 10, 1963.

Number with degrees estimated by Statistics and Analysis Branch, Division of Nursing, Public Health Service.

Appendix table 4. Number of graduates of basic professional nursing programs, 1900-1961

Year[1]	All graduates	Type of program[2]		
		Baccalaureate degree[3]	Associate degree	Diploma
Calendar year				
1900	3,456			
1905	5,795			
1910	8,140			
1915	11,118			
1920	14,980			
1927	18,623			
1929	23,810			
1931	25,971			
1932	25,312			
1935	19,600			
1936	18,600			
1937	20,400			
1938	20,655			
1939	22,485			
1940	23,600			
1941	24,899			
1942	25,613			
1943	26,816			
1944	28,276			
1945	31,721			
1946	36,195			
1947	40,744			
1948	34,268			
1949	21,379			
1950	25,790			
1951	28,794			
1952	29,016	1,998	...	27,018
1953	29,308	2,224	260	26,824
1954	28,539	2,398	344	25,797
1955	28,729	2,704	199	25,826
Academic year:				
1955-56	30,236	3,156	252	26,828
1956-57	29,933	3,516	276	26,141
1957-58	30,410	3,671	425	26,314
1958-59	30,312	3,943	462	25,907
1959-60	30,113	4,136	789	25,188
1960-61	30,267	4,039	917	25,311

[1] Beginning in 1952, data include Hawaii and Puerto Rico.

[2] Prior to 1952, data not available by type of program.

[3] Prior to 1958-59, baccalaureate figures include a few students in basic master's programs.

Source: Bureau of the Census. Historical Statistics of the United States, Colonial Times to 1957. Washington. U.S. Government Printing Office, 1960. 789 pp.

American Nurses' Association. Facts About Nursing, 1961 edition. New York, The Association [1962]. 255 pp. See also earlier annual editions.

National League for Nursing. State Approved Schools of Professional Nursing, 1962. New York, The League, 1962. 96 pp.

Appendix table 5. Admissions and graduates reported by approved programs of practical nursing, 1948-1961

Year	Admissions	Graduates
Calendar year:		
1948	2,953	1,550
1949	3,851	2,143
1950	5,097	2,828
1951	5,261	3,810
Academic year:		
1952-53	8,543	5,380
1953-54	12,075	7,109
1954-55	15,440	9,694
1955-56	15,526	10,641
1956-57	16,843	10,666
1957-58	20,531	12,407
1958-59	23,116	14,573
1959-60	23,060	16,491
1960-61	24,955	16,635

Source: American Nurses' Association, Facts About Nursing, 1961 edition. New York, The Association [1962]. 255 pp. See also earlier annual editions.

National League for Nursing. State Approved Schools of Practical and Vocational Nursing, 1962. New York, The League, 1962. 51 pp.

Appendix table 6. Number of programs of basic and advanced professional nursing and of practical nursing, and number of students

Type of program	Number of programs		Number of students		
	Fall, 1962	Fall, 1961	Enrolled Fall, 1961	Admitted 1960-61	Graduated 1960-61
Basic professional nursing:					
Baccalaureate	176	174	22,546	8,700	4,039
Associate degree	84	69	3,860	2,085	917
Diploma	875	883	96,606	38,702	25,311
Post-RN baccalaureate	[1]	140	[2] 9,213	[1]	2,456
Graduate professional nursing:					
Master's	48	43	[2] 2,263	[1]	1,009
Doctoral	4	4	[2] 127	[1]	11
Practical nursing	737	692	23,817	24,955	16,635

[1] Not available.

[2] Includes full-time and part-time enrollment.

Source: National League for Nursing. State Approved Schools of Professional Nursing, 1962. New York, The League, 1962. 96 pp.

National League for Nursing. Unpublished data.

Appendix table 7. Number of basic professional nursing programs, by type of program, 1949-1962

Year [1]	Number of programs				Number of schools [2]
	Total	Baccalaureate degree	Associate degree	Diploma	
February 1949	1,237	103	..	1,134	1,193
January 1953	1,236	198	21	1,017	1,125
January 1954	1,237	215	30	992	1,124
January 1955	1,161	146	34	981	1,129
October 1956	1,137	161	20	956	1,115
October 1957	1,138	166	28	944	1,118
October 1958	1,145	172	38	935	1,125
October 1959	1,137	171	48	918	1,119
October 1960	1,137	172	57	908	1,123
October 1961	1,126	174	69	883	1,118
October 1962	1,135	176	84	875	[3]

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[1] All years include Hawaii and Puerto Rico.

[2] The number of programs is larger than the number of schools because some schools offer more than 1 program. The number of schools includes only those with students enrolled.

[3] Not available.

Source: West, Margaret, and Hawkins, Christy. Nursing Schools at the Mid-Century. New York, National Committee for the Improvement of Nursing Services, 1950. 88 pp.

American Nurses' Association, Facts About Nursing. 1961 edition. New York, The Association [1962]. 255 pp. See also earlier annual editions.

Appendix table 8. Admissions to basic professional nursing programs, and rate per 1,000 17-year-old girls, 1950-1961

Year [1]	Admissions	Number of 17-year-old girls	Admissions per 1,000 17-year-old girls
Calendar:			
1950...............	44,185	1,034,000	43
1951...............	41,667	1,023,000	41
1952...............	42,542	1,092,000	39
1953...............	43,327	1,091,000	40
1954...............	44,930	1,100,000	41
Academic:			
1955-56.............	45,209	1,140,000	40
1956-57.............	45,255	1,161,000	39
1957-58.............	44,221	1,163,000	38
1958-59.............	46,263	1,215,000	38
1959-60.............	49,166	1,296,000	38
1960-61.............	49,487	1,478,000	34

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[1] Data for 1952-1961 include the 50 States, District of Columbia, and Puerto Rico; data for 1950 and 1951 exclude Alaska, Hawaii,

Source: American Nurses' Association, Facts About Nursing, 1961 edition. New York, The Association [1962], 255 pp. See also earlier annual editions.

Appendix table 9. Admissions to basic professional nursing programs, by type of program, 1952-1961

Year	Total admissions	Type of program		
		Baccalaureate degree [1]	Associate degree	Diploma
Calendar year:				
1952	42,542	5,402	[2]	[2]
1953	43,327	5,771	609	36,947
1954	44,930	6,083	741	38,106
Academic year:				
1955-56	45,209	6,887	559	37,763
1956-57	45,255	7,106	578	37,571
1957-58	44,221	6,866	953	36,402
1958-59	46,263	7,275	1,266	37,722
1959-60	49,166	7,555	1,598	40,013
1960-61	49,487	8,700	2,085	38,702

[1] Prior to 1957-58, baccalaureate figures include a few students in basic master's programs.

[2] Not available.

Source: American Nurses' Association. Facts About Nursing. 1961 edition. New York, The Association [1962] 255 pp. See also earlier annual editions.

National League for Nursing. State Approved Schools of Professional Nursing, 1962. New York, The League, 1962. 96 pp.

Appendix table 10. Number of admissions to programs of professional and practical nursing, by geographic division and State, 1960-61

Geographical division and State	Basic professional nursing				Practical nursing	17-year-old girls
	Total	Baccalaureate	Associate degree	Diploma		
United States and Puerto Rico	49,487	8,700	2,085	38,702	24,955	1,445,123
New England	4,736	620	39	4,077	1,579	82,237
Connecticut	1,081	167	0	914	305	19,626
Maine	292	33	0	259	84	7,997
Massachusetts	2,605	264	39	2,302	832	39,853
New Hampshire	262	28	0	234	101	4,882
Rhode Island	345	70	0	275	134	6,584
Vermont	151	58	0	93	123	3,295
Middle Atlantic	12,337	1,279	408	10,650	4,102	261,259
New Jersey	1,649	55	77	1,517	604	45,477
New York	5,483	1,010	311	4,162	2,035	124,216
Pennsylvania	5,205	214	20	4,971	1,463	91,566
South Atlantic	6,367	1,074	414	4,879	3,690	243,170
Delaware	161	0	0	161	35	3,271
District of Columbia	312	90	0	222	213	4,661
Florida	845	212	202	431	643	34,943
Georgia	921	52	49	820	518	34,905
Maryland	968	218	0	750	343	24,098
North Carolina	1,054	251	32	771	533	42,075
Puerto Rico	268	26	0	242	280	26,395
South Carolina	366	39	27	300	248	22,594
Virginia	997	125	76	796	662	32,663
West Virginia	475	61	28	386	215	17,565
East South Central	2,077	350	90	1,637	1,964	107,604
Alabama	482	106	0	376	566	30,141
Kentucky	511	92	0	419	356	26,137
Mississippi	328	19	90	219	232	20,085
Tennessee	756	133	0	623	810	31,241
West South Central	2,591	974	42	1,575	3,501	137,251
Arkansas	284	32	0	252	428	16,051
Louisiana	685	346	0	339	382	27,848
Oklahoma	404	53	0	351	306	18,922
Texas	1,218	543	42	633	2,385	74,430

Appendix table 10. Number of admissions to programs of professional and practical nursing, by geographic division and State, 1960-61 (cont.)

Geographical division and State	Basic professional nursing				Practical nursing	17-year-old girls
	Total	Baccalaureate	Associate degree	Diploma		
East North Central	10,566	1,587	214	8,765	4,209	284,144
Illinois	2,981	256	22	2,703	847	76,118
Indiana	1,038	171	58	809	389	36,973
Michigan	1,878	441	134	1,303	1,208	63,672
Ohio	3,305	429	0	2,876	1,334	76,115
Wisconsin	1,364	290	0	1,074	431	31,266
West North Central	5,548	918	25	4,605	2,019	119,492
Iowa	936	124	0	812	188	21,827
Kansas	612	56	0	556	194	16,298
Minnesota	1,467	339	0	1,128	696	27,604
Missouri	1,358	162	25	1,171	573	32,527
Nebraska	554	109	0	445	116	10,323
North Dakota	311	62	0	249	123	5,411
South Dakota	310	66	0	244	129	5,502
Mountain	1,593	718	159	716	1,094	55,631
Arizona	397	159	32	206	192	10,689
Colorado	415	155	0	260	289	13,015
Idaho	127	24	81	22	157	6,003
Montana	210	93	0	117	40	5,595
Nevada	23	23	0	0	70	2,036
New Mexico	29	29	0	0	205	7,832
Utah	342	185	46	111	129	7,888
Wyoming	50	50	0	0	12	2,573
Pacific	3,672	1,180	694	1,798	2,797	154,335
Alaska	0	0	0	0	0	1,205
California	2,460	709	669	1,082	1,791	112,013
Hawaii	150	48	0	102	95	4,869
Oregon	368	132	0	236	264	14,244
Washington	694	291	25	378	647	22,004

Source: National League for Nursing, State Approved Schools of Professional Nursing. New York, The League, 1962. 96 pp.

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Appendix table 11. Rates of admission to programs of professional and practical nursing, by geographic division and State, 1960-61

Geographic division and State	Admissions per 1,000 17-year-old girls				
	Basic professional nursing				Practical nursing
	Total	Baccalaureate	Associate degree	Diploma	
United States and Puerto Rico	34.2	6.0	1.4	26.8	17.3
New England	57.6	7.5	.5	49.6	19.2
Conecticut	55.1	8.5	—	46.6	15.5
Maine	36.5	4.1	—	32.4	10.5
Massachusetts	65.4	6.6	1.0	57.8	20.9
New Hampshire	53.7	5.7	—	47.9	20.7
Rhode Island	52.4	10.6	—	41.8	20.4
Vermont	45.8	17.6	—	28.2	37.3
Middle Atlantic	47.2	4.9	1.6	40.8	15.7
New Jersey	36.3	1.2	1.7	33.4	13.3
New York	44.1	8.1	2.5	33.5	16.4
Pennsylvania	56.8	2.3	.2	54.3	16.0
South Atlantic	26.2	4.4	1.7	20.1	15.2
Delaware	49.2	—	—	49.2	10.7
District of Columbia	66.9	19.3	—	47.6	45.7
Florida	24.2	6.1	5.8	12.3	18.4
Georgia	26.4	1.5	1.4	23.5	14.8
Maryland	40.2	9.0	—	31.1	14.2
North Carolina	25.1	6.0	.8	18.3	12.7
Puerto Rico	10.2	1.0	—	9.2	10.6
South Carolina	16.2	1.7	1.2	13.3	11.0
Virginia	30.5	3.8	2.3	24.4	20.3
West Virginia	27.0	3.5	1.6	22.0	12.2
East South Central	19.3	3.3	.8	15.2	18.3
Alabama	16.0	3.5	—	12.5	18.8
Kentucky	19.6	3.5	—	16.0	13.6
Mississippi	16.3	.9	4.5	10.9	11.6
Tennessee	24.2	4.3	—	19.9	25.9
West South Central	18.9	7.1	.3	11.5	25.5
Arkansas	17.7	2.0	—	15.7	26.7
Louisiana	24.6	12.4	—	12.2	13.7
Oklahoma	21.4	2.8	—	18.5	16.2
Texas	16.4	7.3	.6	8.5	32.0
East North Central	37.2	5.6	.8	30.8	14.8
Illinois	39.2	3.4	.3	35.5	11.1
Indiana	28.1	4.6	1.6	21.9	10.5
Michigan	29.5	6.9	2.1	20.5	19.0
Ohio	43.4	5.6	—	37.8	17.5
Wisconsin	43.6	9.3	—	34.4	13.8

Appendix table 11. Rates of admission to programs of professional and practical nursing, by geographic division and State, 1960-61 (cont.)

Geographic division and State	Admissions per 1,000 17-year-old girls				
	Basic professional nursing				Practical nursing
	Total	Bacca-laureate	Associate degree	Diploma	
West North Central	46.4	7.7	.2	38.5	16.9
Iowa	42.9	5.7	—	37.2	8.6
Kansas	37.6	3.4	—	34.1	11.9
Minnesota	53.1	12.3	—	40.9	25.2
Missouri	41.7	5.0	.8	36.0	17.6
Nebraska	53.7	10.6	—	43.1	11.2
North Dakota	57.5	11.5	—	46.0	22.7
South Dakota	56.3	12.0	—	44.3	23.4
Mountain	28.6	12.9	2.9	12.9	19.7
Arizona	37.1	14.9	3.0	19.3	18.0
Colorado	31.9	11.9	—	20.0	22.2
Idaho	21.2	4.0	13.5	3.7	26.2
Montana	37.5	16.6	—	20.9	7.1
Nevada	11.3	11.3	—	—	34.4
New Mexico	3.7	3.7	—	—	26.2
Utah	43.4	23.5	5.8	14.1	16.4
Wyoming	19.4	19.4	—	—	4.7
Pacific	23.8	7.6	4.5	11.6	18.1
Alaska	—	—	—	—	—
California	22.0	6.3	6.0	9.7	16.0
Hawaii	30.8	9.9	—	20.9	19.5
Oregon	25.8	9.3	—	16.6	18.5
Washington	31.5	13.2	1.1	17.2	29.4

NOTE: Rates may not add to total because of rounding.

Source: Appendix table 9.

***Appendix table* 12. Licenses issued for the first time in the United States to professional nurses on basis of licensure or certificate issued by foreign country, 1950-1961**

Year	Number of licenses	Year	Number of licenses
1950	661	1956	1,217
1951	601	1957	1,690
1952	845	1958	1,761
1953	987	1959	1,810
1954	1,067	1960	1,854
1955	1,128	1961	1,794

Source: American Nurses' Association. Facts About Nursing, 1961 edition. New York, The Association [1962]. 255 pp. See also earlier annual editions.

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